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FARMS FOR SALE.—The subscriber offers for sale five Farms, four in the Township of Woodbridge, Middlesex County, New Jersey; and one in Lodi, Bergen County, N. J.; also a valuable Grist and Saw Mill on a never failing stream, in Woodbridge, New Jersey. These are valuable properties, the soil of the farms good, and elligably situated. The Mill is also well situated for Merchants or Country work. Titles indisputable- Prices low, and terms advantageous to the purchasers.

The subscriber, acting as Agent, Executor or Administrator, has constantly for sale valuable real Estates. Emigrants not acquainted with the United States, would find it to their advantage to apply, as important information could be imparted to them if located near the subscriber.

For any further information apply personally or byletter post paid directed to Rahway, New Jersey.

November 3, 1831. ROBERT LEE.

FOR SALE, A FARM—containing **300** acres of Land. This farm is situated between two and three miles west of Saratoga Springs.

There are two Dwelling Houses, two Barns, a Grist Mill and Saw Mill, and two Apple Orchards on said Farm.

The above mentioned tract of Land is divided only by the Road, leading from Saratoga Springs to Johnstown.

The Mansion House is on the west end of the Farm, on an agreeable elevation, and is two stories high; having a piazza along the whole front, a kitchen on the east; and under the kitchen and larger part of the house is a Celler dug out of a solid rock.

The House stands north of the above mentioned road, about fifty yards, and about the same distance east of the road leading from Ballston Spa to Jessup's Landing. Along the fence, in front and west of the house, are handsome Locust trees, of a beautiful growth, and within the enclosure, Apple, Pear, Cherry and Plumb trees—about fifty yards north-east of the House, is a large Barn, with convenient Sheds, also a Gig, Sleigh and Wood House. East of the house is a spacious Garden, with a large supply of Currant, Gooseberry and Raspberry Bushes, an extensive bed of Asparagus in thriving condition, and several Vines of the Maderia Grape.

About one half of a mile east of the House, and on the road leading to Saratoga Springs, are the Mills, consisting of a grist-mill with two run of stones, two bolts, an over shot water wheel eighteen feet in diameter, all in good repair, and a Saw mill.

The Mills, House, Barn and a large shed for customers' horses and wagons with one hundred and five acres, parcel of said 300 acres, may be had separately, and will afford a good investment. To these may be added, 113 acres south of the Mansion House, and extending to the mills. On this latter piece there is no building, but a beautiful site for a House, along the Ballston road, and about one half mile south of the Mansion House.

This property is situated in a healthy and thriving neihgborhood. At the Mills is a good stand for a Black-Smith, Wheelwright, Carpenter, &c. The road that passes the mills is much travelled. The village of Saratoga Springs, in the summer months, affords a good market for butter, poultry, garden vegetables, &c.; and the Rail Road now being constructed, will certainly increase the demand for these articles.

Possesion of the Mills, &c. to be had immediately, and of the Mansion House &c. on the first day of April next.

When the Hudson River is open, a visit may be made to the above mentioned property in about twenty hours. For further particulars, enquire of SAMUEL M. FITCH, 89 Cherry St., N. Y., who has a map of the property; or of G. SCOFIELD near the premises. Title indisputable, having been owned by the same family more than forty years, and from the first settlement of the country.

FARMS FOR SALE—11 FARMS are offered for sale lying in the town of Fallsburgh, Sullivan County, containing from 100 to 128 Acres; each Farm having from 15 to 55 Acres of improved Land, and Dwellings and Barns on some of them. The tract taking together is considered the best in Sullivan county. Terms easy, and title indisputable. Stock and Produce taken at fair prices in pay ment.

Also, 4 FARMS in the town of Wawarsing, within two miles of the Canal, on one of which is a first rate SAW MILL constructed for cutting Log Timber, and an abundance of Sawing Timber near the Mill. Lumber would be taken in payment for the last mentioned property.

Also, 1 FARM in the town of Wawarsing, Ulster County, of 164 acres. Buildings are in fine order, consisting of Dwelling house, Barn, cider mill and house, &c. There is also a fine orchard, of 400 fine bearing apple trees, mostly grafted fruit. The farm is well watered and fenced, most suitable for grazing than for grain. It will be sold at a bargain.

Also, 2 SAW-MILL SITES, on a never failing stream, with an abundance of Timber on the spot. They are about three miles from the Delaware and Hudson Canal. Payment for the sites will be taken in lumber.

For further particulars apply at the office of the New-York Farmer, No. 1 Law Buildings, 20 Nassau Street, where a map of the property may be seen; or to John Collar, Poughkeepsie; or to A. & R. Southwick, Naponock.

June 5, 1832. tf

BEMIS' HEIGHTS FOR SALE.—The subscribers offer for sale that celebrated FARM, in the county of Saratoga and town of Stillwater, situated 24 miles north of the city of Albany, on the turnpike road leading to Whitehall and known as Bemis' Heights. As a farm, it is valuable property containing about 250 acres of land, all in a high state of cultivation, excepting about 50 acres of young and thrifty wood. It consists of upland and meadow; the upland affording great facilities for raising Sheep. The Canal running through the farm affords ready access to the markets of Albany, Troy and Waterford.

As a residence or summer retreat, it possesses peculiar attractions. The Farm house can comfortably accommodate a family, the mansion is neat and peculiarly well arranged for the convenience of a family. The scenery possesses great interest; in front is the Hudson river presenting, in the distance, one of its beautiful windings. Between this and the mansion run the canal and turnpike road in parallel lines with conveyance north and south every day during the travelling season. On the north part of the farm are the celebrated Bemis' Heights, connected with so many interesting associations in the history of our country. There is also a large Apple Orchard, beautifully situated.

There is a large stock of Sheep and Cattle on the farm which will be sold in connection with it, if required by the purchaser. SMITH & WILLARD.

Albany, November 22, 1831. tf

A BARGAIN.—For Sale a Farm about 7 miles from the city of Albany, consisting of 140 acres, strong wheat and grass land, superior for stock. The site of the House, which is of Brick, and cost between 5 and 6000 dollars, commands a view of the whole farm. The out buildings are extensive—Apple and other Fruit Trees are abundant. By an aqueduct, which is now out of repair, water from a pure spring may be distributed over any part of the farm. Price $6,000.

Apply at the office of the N Y. Farmer, No. 1 Law Buildings 20 Nassau st. N. Y. my17-tf

WOOD TURNING.— John H. Mead, No. 41 Hester-Street, between Norfolk and Essex streets respectfully solicits the patronage of the public in the various branches of *Turning*. By punctuality in the execution of orders and very reasonable prices, he hopes to give very general satisfaction. New-York, June 9, 1831.

INCORRUPTIBLE TEETH.—The celebrity of the "Imitation Human Incorruptible Teeth" is so universal and the peculiar advantages which they possess, together with their decidedly eminent superiority over all other kinds of artificial teeth, is so generally known and acknowledged, that a minute description of their merits and excellencies, by way of advertisement, would be deemed altgether superfluous. To those, however, who are not perfectly familiar with the various kinds and qualities of the materials used as substitutes for the original teeth, it may be well to observe, that the "Imitation Human Incorruptible Teeth," unlike teeth formed of animal substances, never change in any length of time their colour; neither will they in the smallest degree decay or decompose by combined action of the atmosphere and saliva or juice of the mouth; consequently, they are worn with ease and pleasure by those who use them—preserving the natural form of the mouth; restoring the articulation, and renewing the pleasures of mastication; never producing a disagreeable or disgusting taste, and preserving the breath always and at all times sweet and uncontaminated. The subscriber has constantly on hand an elegant assortment of those beautiful teeth, which he will be happy to insert for those who need them, either singly or more, to a full and entire set, if wanting; and in the subscriber's manner of setting them, they are adapted with ease to *all cases*, how difficult soever they may have been deemed.

All operations on the mouth and teeth, such as separating evening, regulating, cleaning, plugging, or stopping, extracting, &c. &c. appertaining to the profession of Surgeon Dentist, performed with ease and scientific practice.

JOHN BURDELL, Surgeon Dentist,
303 Broadway, entrance in Duane-St. N. Y.

PATENT ZINC HOLLOW WARE Factory JOHN WESTFIELD & Co. No. 163 Mott-Street, New-York.

Are now ready promptly to supply orders for all kinds of Zinc hollow ware, either for culinary use or the dairy. For cash sales, liberal discount is made from the retailing prices

This ware will, upon examination, be found not materially to exceed in price Tin and Iron; yet as durable as Iron, not subject to rust, giving the article cooked or kept in it no unpleasant taste, not containing in itself, nor forming with the materials cooked in it, *poison*, as do Copper, Brass and Lead.

Zinc Kettles, for cooking rice, hommony, and all kinds of sweet-meats, will be found well adapted, neither discoloring, nor varying the flavor of the substance cooked; for these purposes, and to avoid the poisonous corrosions of copper, Brass and Lead: it will ere long be substituted for these metals.

Zinc pans, by the dairy man will be found an object worthy of attention, from the following considerations: that milk in zinc pans of the same size, will produce from 20 to 25 per cent. more cream or butter, and that of superior flavor; will keep milk sweet longer by a number of hours, affording the cream more time, besides its chemical effects, to separate from the milk, (for this reason, cream from these pans will not admit of being churned as soon as that from other pans, in as much as no cream should be churned till it is soured,) and will greatly outlast any other pans in use.

These pans have now been too long the subject of experiment and too uniform in their successful results, to admit of a doubt as to their advantage over other articles in daily use.

Zinc Jars and Firkins for preserving butter sweet for family use or for market, possess equally superior advantage for butter, as do the pans for milk. Experiments and results safely warrant the above statement; and the orders of wholesale and retailing merchants as well as those of families and large dairies daily supplying from different parts of the country, are the consequence of successful results in the use of this ware.

Zinc ware is cleansed with brick dust, with soap and sand, or with hot ashes.

Besides being to be obtained at the Factory, this ware will be found at A. Brower's, 230 Water-street, near Beekman

☞ NOTICE.—Letters patent for manufacturing these articles exclusively by the subscribers, having been obtained, we would advise the public against any encroachment of the patent right; and the person who shall give information of any violation of this patent right, will be liberally rewarded by

JOHN WESTFIELD & CO.

PENDLETON, LITHOGRAPHER, Engraver, and Printer, has removed from 137 Broadway to No. 9 Wall Street N. York; where every variety of designs on stone or copper, is promptly executed, and on reasonable terms.—Imports, and keeps constantly for sale to the trade, a general assortment of Engravings, plain and colored

Also, Copper Plates, Lithographic Stones, of the best quality, Frankford black, &c.

Lithographic Drawings of Animals, Fruit, Plants, and Agricultural Implements correctly and reasonably done.

August 18, 1831. 12m

C. GRICE, VETERINARY SURGEON, Member of the Royal Veterinary Medical Society, begs leave to inform the public of New York and its vicinity, that he is now practising the above art, in all its branches, and hopes by moderate charges and strict attention, to secure their patronage. He begs to refer to the annexed certificate.

"Mr. C. Grice having submitted to us his certificates of attendance on the Veterinay College of London, and of his membership of the Veterinary Society, we recommend him to the public, as qualified to heal the diseases of horses:

"George Bushe, Professor of Anatomy, and Physiology. Valentine Mott, Professor of Surgery. John W. Francis, Professor of Obstetrics, &c. Alexander H. Stevens, Professor of Surgery.

☞ Orders left at the following places, will receive immediate attention. At his Infirmary, No. 592 Pearl street.

At Tattersall's, 446 Broadway. At Dr. Hart's, corner of Broadway and Chambers street. Or at Hartwell's Stables in Lumber street.

LAFAYETTE BURR MILL-STONE MANUFACTORY.

240 Washington-Street, Corner of Robinson Street.

The Proprietor, grateful for the flattering encouragement he has received from his numerous friends and the public generally, informs them that he has now on hand Burr Blocks equal in quality to any ever imported.

As he is in the habit of going to France annually, and selects the Blocks at the Quarries by his own hand, personally, it insures to the *Burrs* of manufacture a decided preference over the *Blocks* imported by Merchants to order; who are not, nor can they be, accurate judges of the article, unless they manufacture them.

Persons giving orders for *Burrs* are requested to be very particular in stating whether they are wanted for all kinds of Grain—say country work generally, or for flouring alone; as it is of the utmost importance that the *temper* of the Burr should correspond with the Grain to be manufactured,

W. T. having had considerable experience in *Mills*, is well aware of the great importance of having Burrs made in the most faithful and perfect manner. As to the temper of the Blocks, the greatest care will be strictly observed in their manufacture, to have the joints on the back of the Burrs as perfectly close as the face: this has, in some instances, been neglected, and after a few years' run the joints will become very large, and the Burrs fall to pieces as they wear down. Too much pains cannot be taken in their manufacturer and unless this is the case, the whole establishment, however good otherwise, will be deficient. This very valuable article, although it has been in use for many years in this country, yet its qualities, in its perfect state, are but little known, owing to the defect of the materials and workmanship.

They will be made to order and forwarded to any part of the United States. No Burrs will be delivered unless warranted, with my name on them.

In order to accommodate his customers at the West and North, he has been induced to establish a Manufactory in Albany, at No. 198 North-Market street, formerly occupied by *J. Reynolds*, deceased. Orders will be received by Erastus Corning & Co. Albany, or by William H. Culver, at the Manufactory.

Millwrights, Millers, and Gentlemen, who are judges of the article, are invited to call at No. 240, Washington street, corner of Robinson-street, and examine the materals and workmanship.

W. T. has extended his business, and keeps constantly on hand Dutch Bolting Cloths, from the most approved Manufactories in Holland; Esopus and Cologne Stones; also, Mill Irons, wrought and cast, of any pattern, furnished at the shortest notice. All articles warranted, and sold at fair prices.

WILLIAM TYACK,
York House, No. 5 Cortland st. N. Y.

HORTICULTURE.

Insects and Diseases of Fruit Trees.

[At the request of a correspondent we insert the following article from 'Bridgeman's Young Gardener's Assistant,' 3d edition. The extracts we have heretofore made from the same work, have been most extensively copied, and we have no doubt the present will be considered as worthy of as extensive circulation as any which has preceded it.]

Much may be said relative to the various diseases to which fruit trees are liable, and also to the prevention and destruction of the various kinds of reptiles and insects which very frequently deprive us of the first fruit of our garden. The preventive operations are those of the best culture. Fall ploughing, by exposing worms, grubs, the lavæ of bugs, beetles, &c., to the intense frost of our winters, and the moderate use of salt, lime, ashes, &c. are beneficial. Insects may be annoyed, and sometimes their complete destruction effected by the use of soap-suds, ley, tar, turpentine, sulphur, pepper, soot, decoctions of elder, walnut leaves, tobacco, and other bitter and acrid substances; but perhaps the most effectual way of keeping some of the most pernicious kinds of insects under, is to gather up such fruit as may fall from the trees, before the insects have an opportunity of escaping into the earth, or to other places of shelter.

Where trees are planted in a bad soil or unfavorable situations, they often become diseased; when this happens, the best remedy is good pruning, and keeping the trees clean, by a free use of soap and water. If that will not do, they may be headed down, or removed to a better situation. Barrenness and disease are generally produced by the bad qualities of earth and air by a want of water, or by the inroads of insects. These incidents generally show themselves in the early part of the year. Leaves and shoots of any color but the natural green; curled and ragged leaves; branches in a decayed state; shoots growing from the roots, instead of from the stem or trunk; the stem diseased in its bark, and gum oozing from various parts thereof, are all proofs of the existence of disease.

The Peach tree is subject to a disease called the yellows; and the discolored leaves and feeble branches are often ascribed to the worms which so frequently attack the root; where these are found, they may be removed by a knife or chisel; but if it should appear that the tree is diseased, it should be removed, to prevent other trees from being infected. The pear, and also the Quince, and sometimes other trees, are subject to the fire blight; this malady may be completely checked on its first appearance, by cutting off and immediately burning the injured branches. Generally speaking, careful pruning, cleaning the bark all over with a brush, applying soap or tobacco water to the leaves, and occasionally putting good earth and good manure to the roots, will remedy most diseases in fruit trees; removing them from a bad to a better soil will, of course, effect this, where it proceeds from poorness of land; for the old adage, 'remove the cause, and the effect will cease,' will be here exemplified. To cure the oozing of the gum, nothing more is necessary than to cut away the diseased parts of the bark; and by thus assisting nature in casting out the excrementitious or noxious juices, a complete cure may be effected. When a tree is affected by mildew, let it be immediately sprinkled with soap suds, and then be dusted over with sulphur and tobacco dust, or snuff; at the same time, dig around the tree, and examine the soil, and sub-soil; if it be wet and cankery, it should be taken away, and replaced with good healthy soil, and the ground drained; if on the contrary, the ground is dry, give it a plentiful watering; the same remedy may serve as a preventive of the extension of blight, if taken in time. When any canker is observed, the part effected must, at the winter pruning be cut clean out, and the part thus dressed be pared, so that no water be able to lodge in the wound; when this is done, let a quantity of soot be mixed up with the water, after which, let a little train oil be worked well amongst it, but so that the mixture finally remain stiff; this may be plastered over all the wounds that have been pruned. The application of this mixture keeps out the wet from the wounds, where it would be likely to lodge, and both the soot and the oil promote vegetation. When trees are cankery from having a bad sub-soil, it is in vain to apply any remedy till the ground is properly drained, and some fresh soil be mixed with the natural soil, also the tree replanted.—When trees are known to be so situated as to be particularly liable to the attacks of insects or disease, they should be attended to at the time of winter pruning, in order to destroy the insects in the larvæ state. See page 164.

The following compositions have been known to protect fruit trees from the attacks of numerous insects by being used as a wash to the trees immediately after the winter pruning. The constitution of some trees will bear a much stronger mixture of ingredients than others; but the proportions, as hereafter described, will not be injurious to any, but will be effectual in the destruction of the larvæ of insects.

For Apricot, Nectarine, and Peach Trees.—To 8 gallons of water add one pound of soft soap, 2 pounds of common sulphur, and half an ounce of black pepper.

For Apple, Cherry, Pear, and Plum Trees.—To 4 gallons of water add one pound of soft soap, 2 pounds of common sulphur, 2 ounces of tobacco, and one ounce of black pepper.

For Figs and Vines.—To 4 gallons of water add half a pound of soft soap, one pound of sulphur, and a quarter of an ounce of black pepper.

All these ingredients must be boiled together for 20 minutes at least, and when in a lukewarm state, applied to the bark of the trees with a suitable brush.

The most destructive enemy to our fruits, is the Curculio; this insect passes the winter in the earth in a chrysalis state, and if suffered to remain unmolested by the gardener, will be ready to commence his attacks at about the time the blossoms appear on our fruit trees. The eggs are deposited in the apple, pear, and all stone fruit, at a very early stage of their growth; these eggs soon hatch, and small maggots are produced, which exist in the fruit, causing it to drop off prematurely, with the little enemy within: if this fruit be gathered up, or devoured by hogs, geese, or other animals, a check may be put to their ravages in succeeding years, but if suffered to remain on the ground, they will supply food to myriads of their destructive race, which may not be so easily extirpated. The canker worm is another enemy to our fruits, for the destruction of which many experiments have been tried.—Some apply bandages around the body of the tree,

smeared over with tar or ointment, to annoy or entrap the females, in their ascent to the tree; but as these tormentors are frequently on the move from November to the end of June, this must be a very tedious, as well as uncertain process. As this insect is supposed to exist within four feet of the trunk of the tree, and not more than three or four inches from the surface of the earth, good culture, and a moderate use of lime-ashes, or any other pernicious ingredient, is the most likely way to destroy them. The Bark-Louse is another pernicious insect; they resemble blisters, and are so near the color of bark as to be imperceptible; they often prove fatal to the Apple tree, by preventing the circulation of the sap. These insects may be conquered by washing the trees with soap-suds, tobacco water, lime water, or brine, or a wash may be made of soapy water and lime, thickened to the consistence of cream or paint, with sifted sand or clay, which may be applied with a brush to the trunk and limbs of the trees; this should be done at the latter end of May, or early in June, and the cracks in the bark should be completely covered.

The Apple tree Borer is said to deposit its eggs beneath the surface of the soil, and the worms are often to be found in the spring of the year, by digging round the tree, and clearing away the earth to the roots, and may be taken out with a knife or gouge and destroyed. After the worms are removed, the wounds should be covered over with grafting clay and wood ashes mixed, and the earth then returned to the roots of the tree.—Some use bricklayers' mortar early in the spring, around the base of the tree, so as to cover the part where the deposit is made, and prevent their attacks.

Although our limits will not allow of a further description of the various sorts of insects which injure our gardens, and frequently destroy the first fruits of our labor, I cannot forbear directing the attention of our citizens to the importance of saving all kinds of ashes. If all agriculturists and horticulturists were to offer an inducement to the inhabitants of large cities to save their ashes in a dry state, they would be supplied not only with a valuable manure, but an antidote for many kinds of insects; and our citizens would be at less risk from fire, by having a brick vault on the premises for safe keeping them. In England, a private dwelling is not considered complete without an ash vault, and a good farmer would dispense with his barn, rather than be destitute of an ash-house. I have known farmers supply the cottagers with as much peat as they could burn, on condition of their saving them the ashes; and there are some that will keep men under pay throughout the year, burning peat for the same purpose; and any thing that has passed the fire is so valuable, that a chimney-sweep will frequently clean chimneys for the sake of the soot, which is conveyed miles in the country, and sold at a price sufficient to reward the collectors, besides paying all expenses; even the house-keeper's ashes in cities is a marketable article at all times, at from ten to twenty-five cents per bushel, when kept dry and clean, and a guinea a load was formerly the common price in the villages in Berkshire and Hampshire.

While on this subject, I would urge the importance of a spring dressing of ashes. If cultivators were to prepare turf from tanner's bark, peat, earth, coal dust, mixed with clay, cow dung, &c., and get them dried in the summer season, these, by being preserved through the winter, may be burned around fruit orchards, while the trees are in blossom, and if the fires are properly managed, a smoke may be kept up, by heaping on damp litter every night; this will prove pernicious to such insects as may reside in the trees, and the ashes being spread on the ground, will serve as an antidote for the destruction of others. An Orchard thus managed every year, will need no other manure. The smoking should be effected first on one side of the plantation, and afterwards on the other, or heaps may be prepared in different parts of the Orchard, and fire applied according as the wind may serve, to carry the smoke where it is most necessary. I know a gardener in the neighborhood of New-York, who saved his Plums and Nectarines by burning salt hay, after its having been used as a covering for his Spinach; and I have no hesitation in recommending it as an excellent remedy for securing fruit trees from insects, especially if some coarse tobacco could be procured to add to it. The damper the materials are in moderation, the more smoke they will create: and if a little tar, pitch, sulphur, or other pernicious combustibles be sprinkled amongst them, it will be beneficial. For further remarks on the destructions of insects, the reader is referred to page 7 and 8 of the general remarks on the management of the Kitchen Garden.

Strawberries

The following article is taken from a little work, published at the office of the New-York Farmer, entitled 'The Fragaria: or Description of the most improved Varieties of Strawberries and Raspberries cultivated in Great Britain and the United States: with Directions for their Culture.' [Continued from page 209.]

Class VI.—*Hautbois Strawberries.*

The character of this class is to have tall, pale green, rugose leaves, of thin texture; the scapes tall and strong; the fruit middle sized, pale, greenish white, tinged with dull purple; the seeds slightly imbedded; the flavor musky.—H. T. VI. 149.

31. Black Hautbois. H. T. VI. 213; New Hautbois. *Ib.*—Fruit conical, more lengthened than in the prolific Hautbois, very dark, dingy purple color when ripe. Seeds scarcely imbebded; flavor high, and flesh buttery. This kind is a very great bearer, and rather earlier than the others, occasionally producing a few berries in the autumn. A very valuable variety.

32. Common Hautbois. H. T. VI. 213; Capron Demelle, Du. No. 14. t. 8; Diæcious Hautbois, Musky Haubois, Old Hautbois, Original Hautbois.—Fruit rather small or middle sized, spherical, of a pale greenish white, tinged with dull purple. Seeds slightly imbedded; flavor musky.—The flowers called the males produce occasionally a small imperfect fruit, with projecting seeds. The plants called males should, in cultivation, be wholly rooted up as useless.

33. Globe Hautbois. H.T.VI. 212.—Fruit nearly spherical, small, becoming dark purple when ripe. Seeds prominent. Flesh greenish, firm, with a separable core; flavor good, with the aroma peculiar to the class.

34. Large Flat Hautbois. H. T. VI. 215; Bath Hautbois, Formosa Hautbois, Lowder's Hautbois,

Salter's Hautbois, Weymouth Hautbois, White Hautbois.—Fruit large; roundish, depressed, light red, and pale on the under side. Flesh greenish, without core, juicy, though delicate, not so high flavored as the others. Seeds embedded in the skins.

35. Prolific, or Conical Hautbois. H. T. VI. 213; Double Bearing, Dwarf, Hermaphrodite, Hudson Bay, Regent's, Sacombe, Sir Joseph Banks's, Spring Grove.—Fruit large, conical, shorter and more obtuse than the Black Hautbois, the color dark, but not so deep as in that. Seeds slightly imbedded. Flesh sol-greenish, high flavored. A very abundant bearer; usually produces a partial second crop, blossoming in August and September, the fruit ripening in October; the autumnal berries are much larger than the summer ones, and yet high flavored. This is by far the best of the Hautbois Strawberries; the flowers the largest of the class yet known, with numerous stamens.

Class VII.—*Scarlet Strawberries.*

The type of this class is the Fragaria virginiana of botanists. The character is to have the leave nearly smooth, dark green, of thin texture, and with sharp pointed serratures; their fruit, mostly of small size, and bright color, with the seeds more or less deeply imbedded, with ridged intervals; the flavor acid, with slight perfume: H. T. VI. 147.

36. American Scarlet. H. T. VI. 106; Black American.—Fruit large, conical, and pointed, with a neck, of a deep rich shining blood red, rough. Seeds numerous, brownish, not deeply imbedded, with sharp intervals. Flesh dark scarlet, firm, with a core; flavor rich and agreeable.

37. Austrian Scarlet; Cluster Scarlet, Duke of Kent's Scarlet, Globe Scarlet, Novia Scotia Scarlet, Duke of York's Scarlet, Early Prolific Scarlet, Oatlands Scarlet.—Fruit nearly globular, a moderate or rather small size, of a rich bright scarlet. Seeds deeply imbedded, with sharply ridged intervals. Flesh solid, pale scarlet; flavor peculiar, sharp, and pleasant. This is the earliest of all the sorts, ripening at least, a week before the Old Scarlet, a most abundant bearer. Its runners are produced very early; they are numerous, small, and of a reddish color.

38. Autumn Scarlet. H. T. VI. 176.—Fruit about the size of Old Scarlet, ovate, with a neck, a uniform shining red. Seeds yellow, deeply imbeded, with ridged intervals. Flesh solid, firm, pale scarlet, flavor good.

39. Bishop's Seedling Scarlet. H. T. VI. 172.—Fruit of moderate size, round, with a neck, hairy, light scarlet. Seeds deeply imbedded, with ridged intervals. Flesh solid, firm, pale scarlet, with a moderate flavor.

40. Black Roseberry. P. M. 20.—Fruit of a good size, bluntly conical, deep purplish red, shining. Seeds slightly imbedded, with flattened intervals. Flesh dark red next the outside, solid, buttery, and juicy, very excellent flavor, differing much from other strawberries.

41. Carmine Scarlet. H. T. VI. 138; Carmine Roseberry.—Fruit large, bluntly conical, with a neck, of a brilliant, shining, varnished red. Seeds slightly imbedded, with sharp ridged intervals. Flesh pale scarlet, tinted with red, firm, very high flavored.

42. Charlotte. H. T. VI. 155; Princes Charlotte's Strawberry.—Fruit middle sized, round, hairy, of a dark purplish red. Flesh scarlet, firm, and high flavored. A moderate bearer, but ripens early.

43. Clustered Scarlet. H. T. VI. 164; Clustered Wood Pine.—Fruit of a moderate size, obtusely conical, or nearly round, very dark purplished red. Seeds of the same color as the fruit, unequally imbedded between the intervals, which are sometimes flat, and at other times bluntly ridged. Flesh scarlet, firm, and well flavored.

44. Cockscomb Scarlet. H. T. VI. 180.—Fruit large, compressed, with a furrow along the apex, which appears as a simple indenture when the berry does not put on a cockscomb shape; the early berries are completely cockscombed, so much so as to inclose the calyx within the fruit by surrounding the end of the peduncle; color bright scarlet. Seeds pale, slightly imdedded between flat intervals. Flesh pale scarlet, solid with a large core, well flavored, but without acid.

45. Garnstone Scarlet. H. T. VI. 171.—Fruit middle sized, round, hairy, with a short neck, of a rich glossy scarlet. Seeds red, deeply imbedded with round intervals. Flesh scarlet, firm, sharp agreeable flavor.

46. Grimstone Scarlet. H. T. VI. 166.—Fruit middle sized, conical, with a neck, of a dark scarlet color. Seeds numerous, variously but deeply imbedded, with regular acutely ridged intervals. Flesh solid, pale scarlet, of excellent flavor, and possessing a peculiar sweetness.

47. Grove End Scarlet. H. T. VI. 159; P. M. 7; Atkinson's Scarlet, Wilmot's Early Scarlet.—Fruit of considerable size, depressed, spherical, uniform bright vermilion color. Seed slightly imbedded, between flat intervals. Flesh pale scarlet, firm, with a core; flavor agreeable, and slightly acid. This is a very excellent strawberry, an excellent forcer, an abundant bearer; ripening its berries in succession, and early.

48. Hudson's Bay Scarlet. H. T. VI. 168; American Scarlet, Hopwood's Scarlet, Hudson's Pine, Late Scarlet, York River Scarlet.—Fruit large, with a neck, irregularly shaped, approaching to ovate, rich dark shining red. Seeds unequal in size, deeply imbedded, with ridged intervals. Flesh pale scarlet, firm, hollow, with a core; of a moderate flavor, with much acidity. This should remain ungathered until it assumes a dark color and is fully ripe; otherwise the acid which it contains predominates, and injures the flavor of the fruit.

49. Knight's Large Scarlet. H. T. VI. 178; American Scarlet, Great American Scarlet, Hairy-leaved Scarlet, Knights Scarlet, Large Scarlet.—Fruit above the middle size, roundish, or slightly conical, of a bright vermilion color. Seeds deeply imbedded, with ridged intervals. Flesh nearly white, soft, of a pleasant flavor.

50. Lewisham Scarlet. H. T. VI. 163; Scarlet Cluster.—Fruit small sized, roundish, with a short neck, of a uniform dark, shining, purplish red, growing in clusters, slightly hairy. Seeds imbedded, but not deep, with flat intervals. Flesh scarlet, firm, and solid; the flavor very moderate.

51. Methven Scarlet. H. T. VI. 172; Methven Castle, Southampton Scarlet.—Fruit very large cordate compressed, inclining to cockscomb in the earliest fruit, the late ones conical, dark scarlet. Seeds pale yellow, not deeply imbedded, regularly and closely set with ridged intervals. Flesh scarlet, very woolly, and tasteless, with a large hollow in the centre.

52. Morrisania Scarlet. H. T. VI. 162.—Fruit very small, round, dark red, growing in clusters. Seeds not numerous, more deeply imbedded, with wide round intervals. Flesh whitish, soft, with a detached core, flavor tolerable.

53. Nairn's Scarlet. H. T. VI. 169.—Fruit of moderate size, irregularly ovate, sometimes with a short neck, of a deep rich shining red. Seeds very deeply imbedded, with sharp intervals. Flesh pale scarlet, firm, with a core; the flavor not rich though agreeable, with less acid than the Hudson's Bay. It is a good bearer, ripening rather late.

54. Narrow Leaved Scarett. H. T. VI. 177.—Fruit middle sized, conical, with a neck, hairy, of a uniform bright scarlet. Seeds projecting with flat intervals. Flesh firm, solid, pale scarlet, with a tolerable rich flavor.

55 Oblong Scarlet. H. T. VI. 153; Long Scarlet, Long fruited Scarlet, Padley's Early Scarlet.—Fruit rather large, oblong, with a long neck, which part being without seeds has a peculiar glossy or shining appearance, of bright light scarlet. Seeds few, deeply imbedded between ridged intervals. Flesh nearly of the same color as the outside, but a little paler, firm, and well flavored.

56. Old Scarlet. H. T. VI 152; Ecarlate de Virginie, Du. t. 55. fig. 1, Early Scarlet, Original Scarlet, Virginian Scarlet.—Fruit middle sized, globular, of a uniform bright scarlet, slightly hairy. Seeds deeply imbedded, with ridged intervals. Flesh pale scarlet, firm and high flavored. A very good bearer, and ripens early.

57. Pitmaston Black Scarlet. H. T. VI. 175; Early Pitmaston Black.—Fruit of moderate size, oblong, with a neck, of a dark purplish red, slightly hairy. Seeds of the same color as the fruit on the exposed side, on the other yellow, not deeply imbedded, with rather flat intervals. Flesh tinted with scarlet, having a small core, tender, sweet, mixed with a pleasant acid, and has little of the raspberry flavor.

58. Roseberry. H. T. II. 380. t. 37; VI. 156; Aberdeen, Aberdeen Seedling, Prolific Pine, Rose Strawberry, Scotch Scarlet.—Fruit large, conical and pointed, with a very short neck, dark red, hairy; the early fruits assume a coxcomb shape where the plants are luxuriant. Seeds yellow, deeply imbedded, between ridged intervals. Flesh firm, pale scarlet, with a core; the flavor is not rich, it is however agreeable, and best when fully ripe. It is much admired by many, and even thought by some to be superior to the Old Scarlet.

59. Scone Scarlet. H. T. VI. 170.—Fruit of a moderate size, round, without a neck, of a bright shining red on the upper side, paler on the other, hairy. Seeds dark brown, deeply imbedded, with round intervals. Flesh firm, pale pink, the flavor sharp, with abundance of acid. It is a great bearer, ripening late, and contains more acid than any other strawberry.

60. Sir Joseph Banks's Scarlet. H. T. VI. 161; New Scarlet.—Fruit of moderate size, oblong with a neck, the apex blunt, of a bright scarlet. Seeds nearly prominent, with very flat intervals. Flesh bright scarlet, firm, and high flavored. This strawberry is very closely allied with the Austrian Scarlet, with which it has probably sometimes been confounded, it ripens nearly at the same time, and though not so prolific, yet has a superior flavor.

61. Vernon's Scarlet. H. T. VI. 174; White's Scarlet.—Fruit middle sized, dark red, rather hairy. Seeds slightly imbedded, with flat intervals. Flesh pale vermilion, white in the centre, solid, and well flavored. A good bearer, and ripens early.

62. Wilmot's Late Scarlet. H. T. III. 115; Wilmot's Late Scarlet, Large Scarlet, Late Scarlet, Late Virginian, Wilmot's Scarlet, Wilmot's New Scarlet, Wilmot's Seedling.—Fruit very large, bluntly conical, irregularly shaped, of a shining bright red.—Seeds small, deeply imbedded, with ridged intervals. Flesh white, hollow in the centre, flavor moderate.—It is a good bearer and, ripening late enough to succeed the Old Scarlet, and producing berries in succession, so as to afford a continued supply; to be tasted in perfection, it should be eaten as soon as gathered.

TO THE EDITORS OF THE NEW-YORK FARMER.

The Charms and Value of a Tree.

Extracts in continuation from London Horticultural Works for 1832, *by* Lansingburgh.

Passing by the consideration that a tree is a house, furniture and fuel; that it may be made clothing, and even bread; that it forms part of almost every implement and every machine by which the genius of man has taught him to lighten the labor of his hands: setting aside the considerations that we lean upon it as a staff—that we ride in it as a carriage—that we cross the river on it as a bridge—and that, by means of it, as a ship, we traverse the widest seas, and circumnavigate the globe itself: passing by these and many other utilities, in all their modifications, there is that in a tree, considered as an individual work of the Creator, which may well excite our attention, and most amply reward our study.

Other productions of nature are soon gone; the insect sports for its hour, and then it is no more; the bird sings for a season, and then wings its way to other lands; one crop annually succeeds another; domestic animals wax old and must be replaced; the gray-haired man talks of those of the days of his prime, as of beings of a period almost forgotten. But the man who recalls these, as otherwise lost to memory, may be sitting the while under the same oak, or chesnut, or hawthorn, or yew, beneath which his grandsire sported in infancy—and to reach the magpie's nest in the bark of which, was one of the earliest stimuli to his ambition.

A tree of this description is, in short, a sort of perennial calendar to the village, from the time that its size first renders it an object of general notice, and, after it has out lived the rise and fall of successive generations, it becomes the most ancient of living calendars. It registers events, and it registers seasons. Children play under it; under it faiths are plighted, farewells taken, and friendships renewed; and when friends are apart, the tree is a sort of artificial memory to them. If the spring is early, it is borne in mind as the one in which the great tree budded so soon; if it is late, the tree is a record equally faithful. So many are the recollections that when one who has spent boyhood in a village where there was such a tree, and, returning after a life spent in other parts, finds the tree gone, nothing that is not human can cause so much regret.

So also the tree which the man plants is among the chief of his inanimate favorites; and it is always the more dear to him, the more that it is the one he plant-

ed. The sentiment here is far from a bad one. It is the duration of a tree to which our fondness clings. An annual plant is soon gone, and we forget it in our attention to the plant of the next season. But the tree "summers and winters" with us, and is probably one of the most expressive of simple monitors, in leading us to think beyond the passing hour and its fleeting appearances. To some it may seem that these charms of the tree that we have mentioned are but trifles; but of such trifles the happiness of man is made up; and, when we analize those matters which are usually styled great, we always find that they are ultimately resolved into elements equally trifling. The tree "summers and winters" with us, and is at once the key and calendar of the year; and rooted, as it is to the spot, it has many lessons to teach us. It comes into leaf in the spring; is green and spreading, flowering and fruiting, during the summer; the leaves get sour and yellow in the autumn; the connexion between their footstalks and the twigs lessen, and they separate in such a manner that the places which they leave are not wounds, but healed cicatrices, the very moment that they drop. This putting off of its summer garniture is no disease, no casualty or misfortune, so to speak, to the tree. On the contrary, it is a protecting measure—a most wise provision, without which the life of the tree would be perriled, or its boughs rent one from another. Any one who has noticed the havoc which a single night, even a single hour of frost can make upon trees, when they are in action, must be aware that if that action should continue through the winter, we should have no aged trees in the forests. But nature provides against such a catastrophe: the leaves expand, and the shoots lengthen, to the measure of their year's growth—the latter bearing their rudiments of buds according to the habit of their tree; sometimes on the end of the shoot, and there only, as in the pine; sometimes, just under the leaf, and sometimes so far covered by the PETIOLE, or foot stalk of the leaf, that the bud is hardly seen till the leaf drops off. Before the leaves begin to decay the wood begins to ripen, and by the time that they fall off, the twig, which in the early part of the season was secular and juicy, becomes firm and elastic, with ligneous fibres. The buds, too, are cased in armor—in plates, and scales, and folds, covered with a resinous matter which the temperature cannot easily affect, and the mechanical structure of which is such that it cannot easily be opened, except by an effort from within. The head of the common beach is a very beautiful instance, but it may be seen in most trees. Even if the tree is an ever green, its winter economy is nearly the same. Though those who have not attended to the facts are apt to confound them, an ever green tree and an evergrowing tree are far from being the same. During the winter months vegetation is as still in the leaves of the evergreen as in the twigs of the deciduous tree; and when buds are prepared and brought to a state of forwardness, as is the case in the pine, they are as well protected as in those trees that shed their thin leaves. Although, therefore, the evergreen does not drop its leaves till the winter be over, and the vegetable action of the tree be considerably advanced in the spring, yet the winter is as much a season of rest to the pine or the yew as it is to the mulberry, which puts not forth a leaf till the summer be fully come, and drops them all in the earliest part of the autumn. Now, as the action of the tree in any one country in England, for instance, depends upon the seasons—is called forth by a certain degree of heat, and rendered quiescent by a certain degree of cold—it follows that, by observing the seasonable aspects of the trees in one country, and knowing the climates of other countries, the habits of trees there may be determined. The tree has been taken as one of the most striking instances, but the very same principle applies to all vegetables; and thus it is easy to extend one important part of the knowledge of them to every region of the globe.

TO THE EDITORS OF THE NEW-YORK FARMER.

When the inspired writer sets forth the grounds upon which the title of King Solomon to pre-eminent wisdom was founded, he places the knowledge of plants foremost and most conspicuous among natural objects. 'And he spake of trees, from the cedar-tree that is Lebanon, even to the hyssop (mucar?) that springeth out of the wall.' And who is there that has seen trees—that has looked upon such a prospect as may be obtained from almost any hill-side through our country, and can refrain from speaking of them—from wishing to know all that can be known about them?

Inducements to the Study of Plants.

Extracts in continuation from London Horticultural Works for 1832, *by* LANSINGBURGH.

Perhaps the portion of nature the study of which is the most easy for beginners, the most accessible at all times and in most places, the most pleasing in itself, certainly not the least conducive to practical usefulness, and therefore, the one most likely to gratify all tastes, and find students in every class of society, is the vegetable kingdom. We have not to dig in the earth for the vegetable as we have for minerals; neither have to chase, catch or kill it before we can examine it, as is the case with animals. It stands on the light of the sun and the pure air of heaven. So that the very examination of it in its native state is an exercise conducive to health. At the same time there is nothing about any vegetable which even the most fastidious can by possibility consider as indelicate.—In a menagerie, be the animals ever so curious, be they brought from every latitude and every longitude, and kept with ever so much care to safety and cleanliness, there is always something offensive about them. Such a collection is nothing without its lions, its tigers, its baboons, and its serpents; and besides the associations of rending live flesh, and lapping warm blood, and crushing to death, and poisoning, that are inseparable from the sight of such animals, their roaring and growling, and chattering and hissing, are any thing but music to the ear, while they are far from being essence to the smell, even of persons that are not very delicate. It is not so with collections of vegetables; from the best-stored botanical garden, in which the plants of every land are collected, down to even a heath and its wild flowers, a meadow, green despite the rigor of winter—nay, even to a marsh with its sedges and its water-lilies, all is pleasant. Whether indeed, the object be delights or instruction, or never exhausted suggestions of practical application, the vegetable kingdom holds a very forward, if not the very foremost place. It is free too, from scources of erro-

to which the study of animals is exposed. The organs of perception in animals, and the general structure of many of them, are very analogous to those of man. Some of their perceptions far exceed his in intensity, and some of them exceed him in strength and duration. Now, though there is nothing in any or in all of those circumstances that brings man into kindred with the other animals, yet, as their organs of sensation, and those sensations themselves, are called by the same names, there is some danger that by such studies the unreflecting may loose part of the feeling of their own immortality. A more extended knowledge of the animal tribes fails not, indeed to correct this tendency, because it is then found that the races which have the least resemblance to man—those in which no allocuted central brain, and no organs of sensation are visible—are just as perfect in their kind, and as admirably adapted to the situation in which they are found, as those that resemble man the most. But in the study of vegetables, whether that study be narrow or extended, there is nothing calculated, in the least, to stir a suspicion of the kind that has been named.

TO THE EDITORS OF THE NEW-YORK FARMER.

Pruning Trees and Plants.

I always was of an opinion that every person whatever may be his occupation, should be communicative to others, on subjects calculated to promote the good of others. Under such impressions I submit to you the following article, which, should you consider useful to your readers, you may please to insert it in the New-York Farmer.

It may be supposed that there are few who are not aware, of the utility of keeping trees and plants in a healthy and vigorous state; which chiefly depends on *pruning* and giving proper nutriment; and by little inquiry it will be found, that many of the present fine varieties of flowers and fruits now cultivated; are nothing more, than the *premature* parts of the vegetable kingdom, *improved* by culture, So various is the opinion of many practical horticulturists, on the *time* and *mode* of pruning, that I shall not venture to give directions—but merely suggest a few observations that have come under my immediate attention.

1. By general observation on *fruits*, I have found that all varieties, whatever may be their natural *location*, require a free circulation of *air*, and, most generally, of *sun;* and that fruits which are partially excluded from these elements, by foliage, &c., as the cucumber, melon, strawberry, grape, &c.,—the part excluded is destitute of its color, and flavor in proportion to its exclusion.

2. That when trees are too thick of wood the most weakly part dies, and such part oftentimes is the means of breeding and harboring *insects*, which may be considered as winter quarters or nursery for them.

3. That all trees and plants have their natural *port* or habit, which is oftentimes much injured by being pruned in such a manner as to alter their form.

As regards the quality of fruit, *pruning* appears to be essentially necessary both to the grower and consumer; the former being benefitted by a larger portion of well matured fruit, and the latter having the satisfaction of eating of a more wholesome fruit than those of an unmatured nature. Prudence forbids me at this place to venture an opinion, on the ill effects that may arise from fruits that are not properly ripened; which I have reason to suppose are of a fermenting quality, being less replete of their sugary and aromatic quality.

Whether any ill effects, or disease arises in large cities, where trees, vines, &c., are suffered to grow into dense clusters, and their branches and leaves putrify and decay, I shall not attempt to assert. But certain it is, that, such places always abound in insects injurious to trees and plants, which seems to indicate some propriety of a removal of such nuisance. Taking suffocation into consideration which is caused by a deprivation of sun and air, many interesting demonstrations may be made, as it will be seen that one part of a tree suffocates another without having any material effect on the whole system: another part is partially injured, as the middle of thick trees, in such a manner as to be fruitless; whilst the parts wholly exposed to sun and air, the fruit and branch are found to be replete with all their natural qualities. It may also be remarked that leaves of plants lose their natural colour by the absence of light, in which case they most generally change into white, which are often cherished as varieties by the inexperienced Horticulturist, as the Geraniums, &c. This is sometimes caused by the plants being overcharged with water; but, in either case is nothing more than disease, which is of short duration.

In the operation of pruning, the principle object to be kept in view, appears to be in thinning and regulating in such a manner as every part of the plant or tree may enjoy sun and air, and that the tree is of a single stem forming a regular head from a common centre at any given height, from which the leading branches should be kept as regular and as near of equal dimensions as possible, in order that each branch acquire an equal quantum of sap, &c., from the common centre.

It will far exceed my prescribed limits to enter into the many modes and forms of pruning and training in this place, some being trained in form of a *fan*, others horizontally, and some pendulous to walls, fences, espaliers, &c., which require the assistance of nature, viz: sun and air, and most generally are inclined to detach themselves from the places designated for them in quest of their natural elements. Much appears to depend on the management of fruit in their infant state, in their being nurseried in a proper manner, of which the seed appears to be the most proper; and it is little to be doubted but the present enlightened state of Horticulture will ensure the planter healthy trees from any section of the Union. E. S.

Albany, May 25th, 1832.

Albany Horticultural Society.

PROCEEDINGS.

April 14.—J. Buel exhibited the best Rhubarb and Radishes.

J. Whelan, from the garden of S. Van Rensselaer, Jr., Radishes, Asparagus, Lettuce, Cabbage and Tomato plant from hot beds.

H. W. Snyder, best Celery.

D. B. Slingerland, Spinage from seed planted last fall, Lettuce, Parsnip, and Salsify.

April 28.—J. I. Godfrey, 1 bunch best Asparagus raised in open ground.

May 12.—From the Albany Nursery, Poppy flowery Peony Tree, 13 kinds of Narciscus, Pulmonaria Virginica.

J. Whelan, from the garden of S. Van Rensselaer,

Jr., one bunch of Radishes, 6 heads of Lettuce, and Spring Spinage.

From the garden of E. C. Delavan, six stalks of Sea Kale, one bunch of Asparagus, and 12 stalks of Rhubarb.

D. R. Slingerland, six heads of Lettuce, fine Radishes, single and double Hyacinths, single and double Tulips, Blue Violet, and Nutmeg Hyacinth.

May 26.—Single and double Dutch prize Tulips, very fine, Radishes, the seed sown in open ground in April, and Sallad from open ground.

J. Whelan, from the garden of S. Van Rensselaer, Jr., two heads of Early York Cabbage, fine Early Sallad, 10 heads of very fine Spring Spinage.

J. Buel, one brace of best Cucumbers.

M. Murphy, from the garden of E. C. Delavan, fine varieties of single Tulips, and the greatest varieties of Flowers.

MISCELLANEOUS.

TO THE EDITORS OF THE NEW-YORK FARMER.

Tour from New-York to Philadelphia.

You requested me to write to you from time to time as opportunity might offer, and with that request, I shall endeavor to comply. I succeeded very well in settling with the old subscribers, and in obtaining new ones to the New-York Farmer. People generally, I find are well pleased with it.

You will naturally suppose I shall notice such things during my tour, as may appear worthy of notice. From Jersey City, I walked up the Hudson about two miles, as the road goes to the residence of Col. Stephens, in the small village of Hoboken. The shaded walk which leads to his house, along the river, as well as the situation of the house, is really delightful.

In this village I noticed a distillery, and my attention was caught by the great number of cows, being more than three hundred, as I was informed, that were fed there. You need not be told that these are kept for their milk, which is sold at Newark and New-York.

You will readily suppose that I recalled to mind that Weehawk, has been rendered famous, not only by the fall of a great man, but also by many subsequent duels.

My course now lay to Newark, distant about ten miles. The road is good, as all roads in places that have long been settled, ought to be, especially when travelers, those on foot excepted, are obliged to pay, as they are here, for passing. You pass two toll bridges: the one over the Hackensack, the other over the Passaic. The road passes over a low piece of ground which may be called a meadow. Here I could not avoid noticing the great number of the stumps of the white cedar, as it is called; though it does not belong to the genery, (Juniperus), with the juniper, common red cedar, savin, &c.; but is the Thuja occidentalis, and the only species of that genery which is known upon this continent. This timber is durable, and the stumps in question, will not disappear, perhaps, for a century; during which time the land they occupy will be worth little or nothing. They are very numerous; rarely four feet apart and often not more than three, and cover, I do not know how many hundred acres of land.

To me, it appears propable, that if the seed of this tree was sown there now, it would grow but little. I have traveled much among the pines near Lake Champlain, and have never seen them growing again there in places, that have been cut over, that is, where they have been cut off. Remove an apple tree, for instance, and whatever you sow or plant there, will be better than that which grows a few rods distant.

Now, if these positions are correct, the utility of a rotation of crops becomes obvious.

Newark stands upon a plain and is said to contain about 12,000 inhabitants. Its principal streets run nearly north and south, and are crossed by others at right angles. Here you will find most of the religious denominations that exist among us, except unitarians. Many articles, such as shoes, carriages, harnesses, saddles, trunks, &c., are manufactured here for a southern market. The public buildings consisting of meeting houses, a court house, an academy, several banks, including the private dwellings, the streets, the commons, the Morris canal which extends across the State to the Delaware river, the country around altogether, present a handsome appearance. The Academy is said to be in a flourishing condition; and the same is said of several female boarding schools of high standing. And it may be added there are five newspapers, one daily, and four weekly, printed here. FRANKLIN.

Newark, May 29, 1832.

TO BE CONTINUED.

TO THE EDITORS OF THE NEW-YORK FARMER.

White-Wash.

In your paper of the 17th May, I observe a communication over the signature, *A Clayite*. I conceive this gentleman is much mistaken in his ideas of painting.

One of the chief objects of painting is to fill the pores of the wood with oil to exclude the water, and preserve the wood from decay. White-wash whether of clay or lime is destructive of all these objects; it retains the water, hastens the decay of the wood, and is every way detrimental to the wood work of buildings. It has been tried on a large scale in the West, found injurious, and exploded years ago.

Middlesex, May 28, 1832. CARLO.

The Curculio.

It has been a question whether the Curculio which destroys our plums and nectarines, has sagacity enough to abstain from depositing its eggs in fruit which hangs over a pavement, or other places where its larva must perish. And the following extract of a letter, from a late Senator of the United States, will shew that the affirmative may be safely taken in this case:

'I remember to have conversed with the late Col. Forrest, who was a sagacious and experienced gardener. He suggested that what Dr. Tilton had communicated to the public in regard to the Curculio, had been mostly obtained from him. He had closely studied its manner; and was led to plant his nectarine trees slanting over his fish pond. The insect avoided depositing its eggs in so dangerous a situation, where its young could have no chance of escape.—*American Farmer.*

NEW PUBLICATIONS.

Notices of Brazil in 1828 *and* 1829. By the Rev. R Walsh, LL. D. M. R. I. A. *Author of 'A Journey from Constantinople,' &c., &c., &c.* In two volumes 12 mo. pages 290 and 299. Boston, Richardson, Lord and Holbrook; New-York, G. & C. & H. Carvill, and H. C. Sleight; Philadelphia, Cary and Hart. 1831.

CONTINUED.

After having attentively examined every object of interest and curiosity in and about Rio Janeiro, Mr. Walsh prepares to make a tour in the interior. Paper money of Rio would not circulate but in the immediate vicinity. Although there were rich mines of gold and silver in Brazil, yet neither of these metals were in circulation. Large pieces of copper only were to be had as the representative of property. To obtain this, he had to pay fifteen per cent. This money was at first imported from England in sheets, and the coin cut out and stamped. The small refuse pieces were thrown away. An Englishman made his fortune by collecting and exporting them back to England. The following is the first adventure of our traveler.

'Opposite the venda was an open copse, covered with brushwood. Here I entered to collect insects, which abounded in it; but I was called back and warned of danger. I thought of serpents, and made a precipitate retreat, but I found the danger was from a smaller, but nearly as serious a cause. Among the insects of the country is a kind of tick, called carapatoo. This is exceedingly venomous; it has six hooked and sharp claws, with which it readily clings to any passing object, and it is furnished with a proboscis of a singular structure. It consists of a pencil of bristles, serrated inwards, forming a terebro or piercer; with which it instantly penetrates the flesh of any animal, to which it has adhered by its claws, and burrows its head in the wound. When entering, the bristles expand, forming a triangle, of which the base is inside, so that it opposes a resistance to extraction, which it is sometimes impossible to overcome. If it is suffered to remain, it gorges itself with blood, till it becomes bloated to an enormous size; if it be extracted forcibly, so as to separate the head, it remains festering in the wound, and as it is exceedingly irratating and acrid in its quality, it causes violent inflammation, which degenerates into a foul and dangerous ulcer; frequently the mere punctnre produces an inflammation, by which the glands of the limbs absorbing the poison, become swelled and very painful. The late king suffered severely from a carapatoo.

'These horrid insects, which are the plague of the country, as bad as any of those of Egypt, are sometimes so abundant, that herds of cattle perish by their attacks. They are so tough that they cannot be bruised, so vivacious that they cannot be drowned, and so adhesive that they cannot be separated; so that it was in vain to place the cattle in water, or use any other expedient. When I came out, one was found on my neck, in the act of perforating the flesh with its proboscis, but it had not time, so it was easily extracted. It was about the size of a large bug, with a grey mottled skin, which was so coriaceous and leathery, that no bruising would kill it, and it escaped. Some others were caught in the evening, and they were all destroyed by the only method effectually practised—holding them on the point of a pin in the flame of a candle.'

Some of our farmers within 15 or 20 miles of our large cities, may possibly feel disposed to substitute the the plan of the 'squire' in sending the produce of their cows to market.

'He was a dark comely man, with a large straw hat, tied round with a broad many-colored ribbon. He wore a jacket of rich flowered cotton, white pantaloons, and fawn-colored boots, with large silver spurs. He was a country squire of the neighborhood, and his mode of living afforded a good picture of the Brazilians of his class, in the vicinity of the city. He owned a large tract of land, and among others, the unreclaimed thicket, of which the carapatoos had taken undisturbed and undivided possession. The rest of his land was equally in a state of nature, and lay useless, except that it supported a few cows, from which, and a few negroes, he derived his whole subsistence. The cow's milk was sent every morning to Rio, a distance of fifteen miles, on the heads of his negroes, who returned in the evening with the produce, and brought him back each three or four patacs. The labor of these journeys was so great, that the blacks frequently sunk under it, and died on the road; and their master was content to live on the produce of his cows, thus disposed of, when he possessed the means of raising a large fortune.'

The following will serve as one of the most favorable specimens of Brazilian farming. Although sugar and coffee are cultivated, yet scarcely in any instance could he obtain these articles on his rout. He was obliged to carry them with him.

'We soon lost our way, and came in front of a large conical hill, which was evident we could not pass over. When arrived at its base, we found ourselves in the midst of a very extensive fazenda. It consisted of a large and respectable mansion-house, in a well cleared demense of several hundred acres, all under cultivation, and containing within itself all the produce of Brazilian husbandry. First, meadows of capim, or Guinea grass. This very productive vegetable was introduced, with slaves, from Angola, on the coast of Africa, and is a real benefit to the country. It has a leaf two inches broad and a foot long, and the culm rises like cane, to the height of ten or twelve feet, if standing upright. It is planted by cuttings from the joint, and is exceedingly vivacious and prolific, yielding large and successive crops of sweet and succulent fodder, and so rich and enduring, that it gives the country an aspect of perennial verdure in the most arid seasons.

'Besides this meadow of capim, were large plantations of mandioca, which resembled a grove of castor-oil trees, having large digitate foliage on branching stems, rising to to the height of four or five feet.—Mandioca meal is the great farinaceous food used in all parts of Brazil. The root from which it is prepared, resembles a large irregular parsnip.

'On the side of the hill, was a very extensive plantation of cana, or sugar-cane. When mountain ground is reclaimed by burning the woods, the first crop is usually

sugar cane; which is seen shooting up every where, with its green stems among the dark ashes, and black trunks and branches of half burnt trees. The first appearance of the plant resembles tufts of aloes, which the culm, or cane, shoots out to the height of eight or nine feet. In this state the plantations are very beautiful, and gave to the sloping face of the hill before us, the aspect of a grove of the richest verdure, laid down in ornamental lands.

Near this, on the same declivity, was a coffee plantation, the dark shining foliage of which was strongly contrasted with the vivid transparent green of the cana. The bushes rose to the height of nine or ten feet, from another grove of ornamental ground, but of an aspect and character very different from the former. It had a sombre and solitary cast. The stems were covered with dark green berries, which become red, and gathered in February—a second crop follows in August. When pulled, they abound with a whitish milky looking pulp, between the cuticle and the seed; they are spread out to dry no mats till the pulp hardens; they are then thrown into a mill, where the whole husk is separated, and the clean seeds packed in long baskets, each containing five arrobas, or one hundred and sixty pounds; and in this state sent by droves of mules to Rio, for consumption or exportation.

Besides these, there were large fields of milho, or Indian corn, bordered with broad beds of feijao preto; and, occasionally, long rows of bananas, with their enormous and singular foliage. In a large fallow, in the midst of this green amphitheatre, were from eighty to one hundred negroes of both sexes; some with infants strapped on their backs, in a rank, breaking up the ground for fresh crops with hoes. This implement was a broad pointed blade of iron, stuck at the end of a pole like a flat shovel, set at right angles with the handle. With this, they struck with the regularity of soldiers drilling for the manual exercise, and cut the ground into square blocks, about twice the size of bricks. Over them presided a tawny colored driver, in a cotton jacket, and large straw hat, with a long rod in his hand, by which he directed their industry, and punished the idle. The whole scene before me presented such a complete picture of a tropical farm where both the face of nature and the produce and mode of cultivation were objects so unusual to the eye of a European, that I sat some time on my horse, contemplating it, with surprise at the novelty of the scene, and with pleasure at the susceptibility of this noble country, and the prospect of what it will become, when it is all brought into a similar state of cultivation.'

Our intelligent traveler frequently had occasion to admire the exuberant growth of vegetation, and the fecundity of animal nature.

'I had occasion to remark in this place the exceeding fecundity of nature which characterises Brazil. There stood in an open green before the venda, a large tree, which was covered with an infinite variety of animal and vegetable life. The stem was perforated and burrowed into, by thousands of ants of various shades and sizes, who formed sundry colonies in different places, and were all moving about with their accustomed industry and activity. From the larger branches above were hanging like bags, various nest of moribundos (different kinds of wasps and hornets), who covered the upper parts like a cloud, while they moved about those pendant cones. In the higher smaller branches, various birds had built their nests, particularly the amoo, a large black bird, and sundry kinds of smaller ones, bentivis and beijaflors, who fluttered over the blossoms in a continued circle. Nor was vegetable life less exuberant; from every part hung down different parasites—tilandsias, stapelias, epidendrons, and a variety of other air plants—on arid parts of the stem, deriving their sustenance solely from the atmosphere, blooming in exceeding beauty, with their transparent succulent stems, and rich scarlet blossoms. This sapless tree was instinct with life, and I counted fifteen different species of animal and vegetable existences, supported on the withered branches.'

TO BE CONTINUED.

THE FARMER.

Thursday, June 14, 1832.

EDITORIAL CORRESPONDENCE.

LETTER XXIV.

PROSPECT OF FRUIT AND FIELD CROPS IN THE VICINITY OF ALBANY.—The effects of the winter have been injurious to many kinds of fruit and ornamental trees, and flowering plants; and the extreme backwards of the spring has been unfavorable to a resuscitation. Large vines of the Isabella grape, which in ordinary winters, have been uninjured, exhibit the ends killed, and, in some instances, the whole plant down to the root.

Those peach trees that escaped the winter, put forth blossoms, but no fruit has formed. The prospect of cherries is equally unpromising and hopeless. The plum has fructified pretty well, and the fruit enlarges. If the remainder of the season proves favorable, and the insects not numerous, the crop will be a good one. Pears unpromising in many locations;—injured by the winter. Apples afford a fine prospect, the fruit generally vigorous. Currants will be abundant; and gooseberries also, if not destroyed by the mildew. Peas are in flower, and look very promising; beans are very feeble and yellow. Grapes will be deficient in quantity, and very probable in quality, as the early breakings have not found a congenial climate as yet. The spring has been very unfavorable to gardeners; they have been at the trouble and expense of putting seed into the ground the second and third time. Radishes have been sent to this city from New-York.

Corn is very unpromising. Some of it is up, but looks yellow and feeble. Many farmers are now planting. Rye bespeaks an ordinary crop. Wheat presents an appearance less favorable. The excessive wet, and the unusual coldness of the weather have given this staple grain a yellow and unthrifty aspect. There are, however, some fields that are very gratifying exceptions. Grass looks well, and should the

weather soon become warm, the crops of hay will be abundant.

Should the unfavorable prospect of a corn crop continue for a few weeks longer, it will be advisable for every farmer to take early measures to make the deficiency, by raising an extra quantity of succulent vegetables. Beets, carrots, mangel wurtzel, and turnips, will make the loss of corn comparatively trifling. Arrangements should also be made by farmers, to bring their hogs forward by pasturing them, and by feeding them with swill richer and more nourishing than the mere slops of the kitchen. Thus treated they can be sent to market early, without the consumption of much corn.

Business generally being less brisk, and the elements apparently more unpropitious than last year, farmers will probably find a reduction in their golden harvest, unless some methods of economy and extra production are adopted.

Albany, June 6, 1832.

Subscription Gardens.—The subject of co-operative ornamental gardens, which we introduced to the notice of our readers last week, has met the decided approbation of many gentleman of taste and wealth. St. John's Park has been spoken of as very eligible in its location, and its present condition—in a fashionable and beautiful part of the city—itself surrounded with an elegant railing, and being already ornamented with full grown forest trees, and with some shrubbery. It now presents scarcely any other attractions than those afforded by shaded walks, and a level surface covered with grass; and yet many families pay from 10 to 40 dollars per annum, for the privilege of having a key giving them an entrance at all times. This one fact shows conclusively, that there are many persons in this city, who would most readily and cheerfully make an annual expenditure of a few hundred dollars towards the maintainance of a garden on the plan we have recommended. We would therefore, respectfully suggest to the proprietors of St. John's Park, to take the subject into consideration. In every point of view it would be beneficial—would soon be succeeded by others, increase the taste for the beauties of nature, add to the health and enjoyments of our citizens, beautify and adorn our city, enlarge the commercial transactions in plants, and thus extend a benign influence throughout the whole bounds of our country.

We will, as opportunity occurs, again and again refer to this very important and pleasing subject.

Shearing Sheep.—Farmers have, undoubtedly, delayed washing and shearing their sheep later this spring than usual, on account of the cold. It is supposed that farmers of this country shear too early. In England, though the spring is earlier than with us, still the wool is not cut until from the middle of June to the 20th of July. Those who shear latest, says Loudon, suppose they gain half a pound weight in every fleece by the increased perspiration of the sheep, and the consequent growth of the wool. Late shearing is preferable only, when the sheep have been washed, and when their constitution is sufficiently good to keep the wool from coming out. Since cleanliness is found to be conducive to health in all animals, would it not be beneficial to sheep to wash them more than once a year? They appear to be very liable to cutaneous diseases, and are much exposed to dirt.

When sheared they should be kept under cover during stormy and cold weather, and not exposed to hot sun until the wool is considerably grown.

Agricultural Papers.—Among the numerous indications of a spirit of improvement, we notice the commencement of two new Agricultural periodicals—the Tablets of Rural Economy, published at Newburgh, and edited by J. W. Nevels, Esq. If well supported by the farmers, its present indications afford assurances that it will be a useful paper.

The Virginia Farmer has just commenced its career at Scottsville—published by Dawson & McRobert. Its low price and variety of matter, independent of its other recommendations, bespeaks a favorable reception. Such a paper is wanted in that great and important State. We make the following extracts from the prospectus.

'It must be obvious to every one, that too little attention is paid in Virginia to this important subject. Our public journals are, most of them, almost entirely taken up in the discussion of political subjects, to the utter exclusion of these more interesting subjects, which lie at the bottom of our prosperity—For that which promotes the interest of the industrious farmer, and tends to aid him in his pursuits, must benefit the whole community, in as much as he is the atlas of the whole fabric, and supports it.

'There is no country in America for which nature has done so much as Virginia—her soil is excellent—her products various and rich—her climate delightful. All she needs, all she has ever needed to make her march in the van of the States, is a proper system of Agriculture and general Internal Improvements. Nature has done her part, we must do ours.

'Short Literary articles will now and then be thrown in, with a general summary of News. Temperance Societies, and all benevolent institutions shall find an advocate in the 'Virginia Farmer,'—for that which tends to promote virtue, directly promotes the interest of the Farmer.'

The Weather.—We congratulate the farmer and gardener on the change of the temperature, which on Monday and Tuesday of this week was warm—real corn growing weather.

BREMEN GEESE.—The Genesee Farmer requests us to "give a general description of Bremen geese, also the prices at which they could be furnished." We cheerfully comply with his request by giving all the information we are possessed of, respecting these valuable animals.

The following is an account of their first introduction into this country, by Mr. James Sisson, of Warren, R. I. contained in a letter to Mr. James Deering, republished in the New England Farmer, vol. IV. page 44. "In the fall of 1826, I imported from Bremen, (north of Germany,) 3 full blooded perfectly white geese. I have sold their progeny for three successive seasons; the first year at $15 the pair, the two succeeding years at $12. Their properties are peculiar; they lay in February; set and hatch with more certainty than common barn yard geese; will weigh nearly and in some instances quite twice the weight; have double the quantity of feathers; never fly; and are all of a beautiful snowy whiteness. I have sold them all over the interior of New-York; two or three pairs in Virginia; as many in Baltimore, North Carolina, and Connecticut, and in several towns in the vicinity of Boston. I have one flock half-blooded that weigh on an average, when fatted, thirteen to fifteen pounds; the full blooded weigh twenty pounds."

Mr. Sisson has received a premium from the "Rhode Island Society for the encouragement of domestic industry" for the exhibition of geese of this breed. They are said to possess the following advantages over other varieties of their species: They grow to a greater size, may be fattened with less food, and their flesh is of a superior quality.

They can be had at $6 per pair, of Col. Jaques, of the Ten Hills Stock Farm, Charlestown, Mass.; of Mr. T. Williams, of Chelsea; and of Mr. J. B. Russell, publisher of the New England Farmer, at the same price.—*New England Farmer.*

CROPS.—The wheat has greatly improved since the late fall of rain. Every species of vegetation, indeed has advanced with great rapidity. On some of the estates on James River where the prospects were very gloomy, the Wheat has thriven so much as to present better than ordinary crops. This change is not confined to the lower country. The following paragraph from the Harrisonburgh [Rockingham] paper of the 5th of May, shows the prospect is brightning beyond the Blue Ride:—

'During the dry and cold weather that preceded the late rains, the appearances of the crops were very unpromising; but since the rains,—and since then too, the weather has been much warmer,—sufficiently so for the season—the crops have surprisingly improved. So that now with anything like a tolerable season, we may expect middling crops. They cannot be heavy—they can scarcely be medium crops. Yet now they can hardly fail to be quite sufficient for our wants. Indeed vegetation generally is advancing with unparalleled rapidity. We have scarcely any peach bloom, and but very few of the different species of plumb. The fructification of these species of trees seems to have been destroyed in embryo. Apple trees will it is believed, throw out a profusion of bloom, and the crop of currants will be exceedingly abundant.'

Some of the Wheat begins to head—and upon the whole, we hope the farmers will have much less cause to complain of the harvest, than was apprehended a fortnight ago.—*Richmond Compiler.*

THE SUGAR CROPS OF LOUISIANA.—It is with no small degree of pleasure that we are enabled to state from the best authority, that, at no former period in in the history of Louisiana, has there been such a favorable prospect for good sugar crops as at the present time. Indeed, we learn that crops of every description, are surpassingly excellent for this season of the year. Although the season for planting was late and very unfavorable, after a protracted and severe winter, we now think we can safely say, if the sugar growers in Attakapas are only blessed with a favorable season for grinding their cane, there will be, at the least calculation, one third better crops this year than last.—*Franklin (Lou.) Gazette of May 19.*

FEEDING SWINE.—The London Horticultural Register says, 'Those who wish that these animals should have a sharp appetite, whilst they are fattening, must give them a couple of handfuls of dried oats once a day; taking care to have a supply for some days forward constantly on hand. For this purpose, a layer of oats must be placed in a pan; salt must be strewed over it, and the whole moistened with a little water; taking care, however, not to fill the pan to the brim, as the moisture will swell the grain.'

COW CABBAGE.—At a meeting of the Sterlingshire Horticultural Society, a Tree or Cow Cabbage, 5 feet high and 18 feet in circumference was exhibited.—'This giant succulent being stationed on the terrace of the adjoining Bowling Green, and surrounded by the enormous competing Savoys and Germans formed a most imposing group.'

RADISHES.—There is a radish growing at Perth [Van Dieman's land] in a shoemaker's garden (reserved for seed) as thick as a stout man's thigh, and from 10 to 11 feet high; in fact the radish appears to take a different character in the deep and moist sands of Perth.—*Hobart Town Courier.*

THE VINE.—A writer on the culture of the Vine in Sidney, states that blight after the fruit is set, may be prevented by ringing the old wood, which sustains the young branch.—*Gard. Mag.*

NEW-YORK VEGETABLE MARKET.—Wednesday, June 13, 1832.—Strawberries abundant at 5 cents per basket; Peas 22 cents half peck; Asparagus 12 to 19 cents per bunch; Potatoes 75 cents to $1 per bushel; Eggs 9 for 12 1-2 cents; Butter 12 1-2 to 19 cts; chickens 63 to 75 cents per pair.

NEW-YORK CATTLE MARKET—Monday, June 11—520 head of beef cattle were in market this day, (400 of which were from the State of Ohio,) sales were rather dull.—Prime cattle sold at $8; good from $7 a 7 1-2; inferior $6 a 6 1-2—which, from the quality of the cattle, is a reduction on last week's prices.—Nearly the whole were sold.

Cows and Calves—30 Cows and Calves were sold at from $25 a 30—according to quality.

Sheep and Lambs—A few prime Sheep were sold at $5; several small lots of good at $3 a 4 1-2; inferior from $2 a 2 3-4—125 were sold in all. 250 Lambs were sold at from $1 1-2 a 2 1-2.

Hogs—126 were in market, which sold at $4 per cwt.

Hay—Remains nearly the same as before reported—averaging 75 c.

NEW-YORK WHOLESALE PRICES CURRENT, JUNE 11, 1832.

ASHES first sort, 100 lbs.			
Pots, 1831	4 50	a	
Pearls,	4 63	a	
BEESWAX, duty 15 per cent. ad val.			
White, lb.	44	a	45
Yellow		a	20
BRISTLES, duty 3 cents per lb.			
Russia, first sort, lb.	60	a	70
common	20	a	40
American	15	a	50
CANDLES,			
Mould, tallow, lb.		a	13
Dipped, do.	11½	a	12
Sperm	30	a	32
CLOVERSEED, lb.	9½	a	
COAL, duty 6 cents per bushel.			
Liverpool, chal.	10	a	
Scotch	10	a	
Sidney & Bridgeport	10	a	
Albion		a	
Virginia	8	a	9
Anthracite, ton	10	a	
COFFEE, duty 1 cent per lb.			
Cuba. lb.	12	a	13
Brazi.	12	a	13
Porto Rico	13	a	14
Laguira	12½	a	13½
St. Domingo	12	a	12½
Java	13	a	00
Jamaica		a	
COTTON, duty 3 cents per lb.			
New-Orleans, lb.	10½	a	13
Upland	8½	a	11¼
Alabama		a	
Tenessee		a	
COTTON BAGGING, duty 5 cents per square yard.			
Hemp, yd.	13	a	17
Flax	12	a	16
Do. American	19	a	21
DOMESTIC GOODS,			
3-4 brown Shirtings,	7	a	8½
3-4 light do.	5	a	7
7-8 brown do.	8½	a	10
Bleached do.	7	a	10
S. I. do. do.	12	a	18
4-4 brown Sheetings	8	a	12
5-4 do. do.	12½	a	15
4-4 bleached do.	11	a	18
5-4 do. do.	13	a	16
Calicoes, blue, yd.	10	a	
Do. fancy	16	a	20
Plaids	8	a	14
Stripes, fast colors	9	a	14
Fustians	13	a	19
Satinets	42	a	1 30
3-4 Checks	8	a	10
4-4 do.	11	a	18
Cotton Yarn No 5 10, lb.	24	a	
Do. do. No. 11 a 14		a	25
Do. do. No. 15		a	25
And rise 1 cent per No.			
Sattinet warps	30	a	32
FEATHERS, duty 15 per cent ad val.			
Live, Foreign, lb.	14	a	20
American	35	a	37½
FISH, duty, Salmon pickled, $2 per bbl. smoked $2 per 112 lbs.			
Dry Cod, cwt.	3	a	
Scale	1 50	a	2
Pickled Cod, bbl.	3 25	a	3 75
Salmon	12	a	13
Smoked do. lb.	14	a	
Mackarel. No. 1, bbl.	5 50	a	
No. 2,	4 12	a	
No. 3,	2 69	a	2 87½
Shad, Conn, mess	9 50	a	10
Herrings		a	2 75
smoked, box	50	a	90
FLAX, duty $50 per ton			
Foreign American		a	
Russia lb.		a	

FLOUR AND MEAL,			
N. Y. superfine, bbl.	6	a	6 25
Troy		a	
Western Canal		a	6 62
Ohio via do.		a	
Philadelphia		a	6 25
Baltimore, Howard-st.	6 50	a	6 62
Richmond City Mills		a	6 62½
Do. Country	5	a	5 75
Alexandria & G'town.	6 25	a	6 62
Fredericksburg	5 12½	a	5 62
Petersburg		a	6 25
Scratched and fine	5 50	a	
Middlings, fine	5 50	a	
Rye Flour	4 50	a	
Indian Meal	2 75	a	3
Do. do., hhd.	14 50	a	15 50
GRAIN,			
Wheat, N. River bush.		a	
Do. Genesee		a	
Do. Virginia	1 12	a	1 15
Do. N. Carolina	1	a	1 13
Rye Northern	82	a	83
Corn Yellow North	56	a	58
White, L. Island and Jersey	60	a	
Southern		a	55
Oats South and North		a	
Peas white dry 7 bush.	6	a	
black eyed bush.		a	82
Beans, tce. 7 bush.	7 50	a	9
HEMP, duty on Russia $60 per ton, Manilla 15 per ct. ad val. yarns 5 cents per lb.			
Russia, ton	220	a	230
Manilla	240	a	245
Sisal		a	
American dew rot	150	a	
Yarns, Kentucky, lb.	9	a	
HIDES, duty free.			
La Pl. and Rio G. lb.	15	a	
Brazil	11	a	13
Do. wet salted	7	a	7¼
Oronoco	13½	a	14¼
W. I. and Southern	11	a	13½
S. Am. horse, piece	1 55	a	
HONEY, duty 15 per ct. ad val.			
Havana, gal.	46	a	48
HOPS,			
First sort, 1831. lb.	15	a	22
Second sort	13	a	20
JUNIPER BERRIES, duty 15 per cent ad val.			
Juniper Berries lb.	2	a4	
LEATHER,			
Sole, oak lb.	23	a	28
Do. Hemlock	20	a	23
Do. Damaged	12	a	19
Dressed, Upper, side	1 75	a	2 75
Undressed do.	1 50	a	2 50
LUMBER, Yard selling ptices.			
Boards N. River M.ft.		a	15
Do. Eastern Pine	51	a	16
Do. Albany do. pce.	16	a	17
Plank, Geo. do. M.ft.		a	35
Staves, W. O. Pipe, M.	58	a	60
Hhd.	36	a	40
Bbl.	29	a	32
R. O. Hhd.	27	a	
Heading, W. O.	54	a	56
Hoops	25	a	30
Scantling, Pine	15	a	16
Do. Oak	20	a	25
Timber Oak sq.ft.	20	a	25
Do. Geo. yellow pine	25	a	30
Shingles, Cypress M.	3 50	a	4 62½
Do. Pine bdl.	2 50	a	3
MOLASSES, duty 5 cents per gal.			
Martinique & Guadal.	26	a	27
English Islands	27	a	
Havana and Matanzas	24	a	26
Trinidad Cuba	29	a	
New-Orleans		a	31

MUSTARD, duty 30 per cwt.			
English lb.	25	a	31
Do. in bottles, doz.	1 25	a	1 44
American lb.	20	a	30
Do. in bottles doz.	75	a	1 25
OIL,			
Linseed, American	90	a	
OSNABURGS, duty 15 per cent. ad val.			
Osnaburgs, yard	8½	a	
PLASTER PARIS, duty free.			
Plaster Paris, ton	4 62	a	
PORTER AND CIDER, duty in casks 15, in bottles 20 cents per gal.			
Porter, London, doz.	2 50	a	2 75
American	1 75	a	2
Cider, draught, bbl,	1 75	a	10
Do. bottled, box, doz.	2	a	2 50
PROVISIONS,			
Beef, mess, bbl.	9 75	a	10 75
prime	5 50	a	5 75
cargo	4	a	
Butter, N. Y. dairy, lb.		a	
shipping		a	
Philad.		a	
Hogs lard	6½	a	9
Pork, mess, bbl.	13	a	13 50
prime	10 50	a	11 75
cargo		a	
Cheese, Am. lb,	5	a	7
Hams, Virginia,	10	a	
Northern	9	a	10
RAGS, duty free.			
Foreign	4	a	8½
Country	3	a	5
RICE,			
Rice, 100 lbs.	3 25	a	3 50
SALT, duty 15 cts. per 56 lbs.			
Turks Island bush	46	a	47
Isle of May.		a	
St. Ubes,		a	
Cadiz.	45	a	
Lisbon	45	a	
Liverpool ground,	40	a	
blown		a	
do. sack,	2 25	a	
SOAP, duty 4 cents per lb.			
New-York, brown, lb	5	a	6
Castile		a	13
SPIRITS,			
Rum, N. O. 1st proof,	40	a	45
Do. N. Eng. 1st proof	36	a	38
Gin, country	40	a	47
Whiskey, Rye	32	a	34
Cider Brandy	40	a	42½
SUGARS, duty brown, 3, white clayed, 4, refined, 10 to 12 cents per lb.			
British Island lb.	6	a	9
St. Croix	7	a	10½
New-Orleans	6	a	7½
Havana, white	9	a	10
brown	6	a	7½
Muscovado	7	a	8
Porto Rico	6	a	8
Brazil, white	7½	a	9
brown,	7	a	7½
Manilla, brown	8	a	
Lump	12	a	13
Loaf	14	a	16
SUMAC, duty 12 per cent.			
Sicily, ton	75	a	80
Trieste	50	a	
American	35	a	
TALLOW, duty 1 cent per lb.			
Foreign, lb.		a	
American		a	8½
WOOL, duty 4 cents per lb. and 50 per cent. ad val.			
Merino, and Saxony, lb.	40	a	56
Do. pulled		a	
Common, washed	20	a	30
Pulled, spinning	40	a	45
Lambs, 1st quality	46	a	
2d do	38	a	
3d do	28	a	

MURRAY HILL NURSERY, *only 3 miles from the City Hall on the Fourth Avenue.*

For sale at this establishment, a choice collection of all the most approved varieties of the different kinds of Fruit Trees viz. Apples, Pears, Plums, Peaches, Nectarines, Apricots, Cherries, Qqinces, Gooseberries, Raspberries, Currants and Grape Vines, raised from the very finest European sorts, that are known to succeed here, and from which the plants are regularly propagated, among which are the Black Hamburgh, Black Prince, Sweet Water, Muscadine, Messlier. Muscadell, Golden and Green Chasselas, &c. Also, above a hundred varieties of the finest of Golden Roses, forty varieties of the Scotch Rose, &c. Together with a great variety of the finest kinds of Flowering Shrubs, Chinese Peonias and many other choice kinds of perennial plants, &c. Also, for sale at the Seed Store, No. 16 Fourth Street, near the Washington Perade Ground, a general assortment of Garden and Flower Seeds. Orders may be sent to the subscriber, No. 16 Fourth Street, or to Messrs. G. Thorburn & Son, Seedsmen and Florists, 67 Liberty Street.

WILLIAM WILSON

New-York, Jan. 1832.

FRESH GARDEN SEEDS.

The subscribers respectfully inform the public that they have entered into partnership in the seed business, and they assure the public that nothing shall be wanting on their part to give the utmost satisfaction to those who may favor them with their patronage. It is the intention of the subscribers to erect an elegant Greenhouse in connection with this establishment, where a choice collection of new, rare, and beautiful flowering plants will be supplied from the New-York Botanic Garden upper end of Broadway; and also from the same establishment the best sorts of Flowering shrubs, Garden roses, Hardy perennial plants, Double dahlias, Chinese Pœonias, Grape Vines, Gooseberries, Currants, Raspberries, Trees for the streets, &c. &c. &c. They have just received from London, a large importation of garden and flower seeds the growth of 1831, such as Cabbage, Cauliflower, Brocoli, Radish, Pease, Grass Seeds, &c. &c- &c.; and also from Glasgow, Hawthorn quicks for Hedges, Red moss, White moss, and White Provence roses. The trade supplied on the most reasonable terms, and all orders by mail or otherwise, will be punctually attended to. SMITH & HOGG,

Feb. 9, 1832. tf No. 388 Broadway, N. Y.

NEW-YORK HORTICULTURAL REPOSITORY, AND SEED ESTABLISHMENT, Broadway, near 13th-Street, and at Harlem. For sale, a constant supply of fresh Garden Seeds, raised at the above establishment, and put up for the southern market, or elsewhere, on the best terms to suit purchasers, wholesale and retail; also Fruit Trees, Flowering Shrubs and Herbaceous Plants, all of the best sorts. Orders by Mail or otherwise will be punctually attended to.

March, 1831. MICHAEL FLOY.

DAVID C. NORTON will be happy to supply any who may want Plum Trees of good kinds, from his Nursery at Lansingburgh, which will be found a choice collection of Forest Trees, and also many excellent Fruit Trees. Jan 31.

FREEBORN & HITCHCOCK. 183 FRONT ST. N. Y.

The subscribers have constantly on hand an extensive assortment of agrilcutural implements, of the most approved construction, embracing nearly every variety of Ploughs, Corn Shellers, Horse Hoes, Cultivators, Hoes, Fanning Mills, Chaff Cutters; also Shares, Landsides and Mould boards, of all Ploughs in general use. Dealers are supplied at a liberal discount. All kinds of Castings of the first quality made to order.

BOOK & JOB PRINTING,

Executed at the Office of the New-York Farmer.

BISHOP'S EARLY DWARF PROLIFIC PEAS.

In 1828, this pea was first introduced to the gardens in the neighborhood of London they were first originated in Scotland by a practical Gardener of the name of BISHOP, in the year 1827. So great a reputation had they obtained in the neighbourhood of London, that they were readily sold for *one guinea a pint.* Its peculiar excellencies are, its great productiveness, equaling, if not surpassing any varieties hitherto known; its earliness, and its remarkable dwarf habit, seldom attaining, even in the best soils, the height of 12 inches, which of itself would make it a most valuable acquisition—more especially for small gardens. They should be planted two or three inches apart in the rows, as from their dwarfishness and spreading habits they do not do so well if sown closer, hence it is obvious there will be a great saving of seed, as a pint of these will go as far as two or three quarts of any other: they commence blooming when not three inches high, bear most abundantly and are very fine eating; if planted weekly a constant succession of green Peas might be obtained all the Summer and Autumn, as from the habit of their growth they appear better calculated to withstand the heat of an American Summer, than any variety we are acquainted with. In 1829, we gave these Peas a fair trial, and find there is nothing in their character as stated above but what is correct. We have a few bushels on hand, both American and English growth of 1831, price 75cts. per quart, but a very liberal discount to those who purchase to sell again. Persons at a distance remitting the cash by letter will receive them by any conveyance they may designate

G. THORBURN & SONS, 67 Liberty-street.

P. S. On hand,—Early Washington, Frame, Charlton Hotspur. Petersburgh, Nimble Dick, &c. which may be planted the first week in March; also, Dwarf Prolific, Dwarf Imperial Waterloo, matchless, Lady's Finger, Knights Marrows, Tall and Dwarf Sugar, Blue Prussian, Marrowfats, &c for later planting.

Just received, 2,000 Scotch Goosberry Bushes, $2,50 per dozen, and some very superior White Mustard Seed, for medicine. m15 tf

MANUAL OF THE GRAPE.

The subscribers have just received from Philadelphia a number of copies of "The American Manuel of the Grape Vine, and the art of making Wine, including an account of 62 species of Vines, with nearly 300 varieties, an account of the principal Vines, American and foreign; properties and uses of Wines and Grapes; cultivation of Vines in America; and the art to make good Wines—with 8 wood cuts—by C. S. Rafinesque, A. M P. H. D. Professor of Natural History, Practical and Medical Botany, &c. in Philadelphia; Member of several learned societies of America and Europe, &c. Let every Farmer drink his own Wine." Price 25 cents.

A distinguished horticulturist observes on the work— "I have read almost every work on the subject for many yerrs, and nothing has pleased me more than this little "*Multum in Parvo.*" G. THROBURN & SONS,

67 Libety-street.

ROSES, DAHLIAS, STRAWBERRIES, & QUICKS.

The Proprietors of the Albany Nursery have printed a classification of 140 of their finest rose t according to color, to enable purchasers to selec a variety with certainty and economy, with characters denoting the size of the flower, habit, and prices This may be seen at Thorburn & Sons seed store, and at 550 Broadway.

They have imported and propagated many varieties of the finest double Dahlias, which will be in flower in all August and September. They offer, from this date forward, plants of the Methven Strawberry, at $2.50 per hundred, 47 of those berries have weighed a pound, and the largest measure 4½ inches round. They have also at $5 per thousand, 50,000 quicks of the honey locust (*Gledilschia triacanthos*) for hedges two years old, and fit for transplanting. Specimens of the fence may be seen at the Nursery, and at the Murray Hill Nursery, New-York.

Orders may be sent by mail, or to G. Thorburn & Sons, Seedsmen N, York. BUEL & WILSON,

Albany Nursery, July 15, 1831. 12m

GREENWICH FLOWER GARDEN,
CORNER OF
Carmine and Bedford Streets,
SEED STORE, AT No. 37, NASSAU-STREET.

D. KENNEY & O'ROURKE, Gardeners, Seedsmen and Florists have improved this extensive collection, by the introduction of many rare foreign and domestic Seeds. Bulbous Roots, annually imported: Greenhouse and Herbaceous Plants: Ornamental Trees and Shrubs, Fruit Trees, Grape, Raspberry and Strawberry Vines, Currants and Gooseberries of the most approved varieties, Rose Bushes raised from the stock, to which was awarded a premium by the New York Horticultural Society. Garden tools and mats, Oatmeal, Split Peas, Grass and Bird Seeds.

Gentlemen supplied with experienced Gardeners.

FRESH GARDEN SEEDS.

The subscriber has just received by late arrivals from ENGLAND and FRANCE, an extensive collection of Garden, Field and Flower Seeds—a mong the former are the first sorts of Cabbage Seeds, as Early York, Early May, Battersea, Sugarloaf, &c.; White and purple Cape Brocoli; Early and late Cauliflowers; many varieties of Early Peas, Beans, Early Frame Radish, Early Lettuce, and in short, with the addition of the various sorts of seeds, grown especially for the subscriber in our own country, renders his assortment full and complete, are the growth of 1831, and of such quality as he can without fear, *warrant*. To those making Hot Beds, nothing is more essential than vigorous fresh seeds, and as the season for this business is at hand, he invites calls.

Also, garden tools, books on gardening, agriculture, horticulture, floriculture, &c.; also, a Manual, containing information respecting the growth of the Mulberry Tree with suitable directions for the culture of Silk—in three parts, with colored engravings. By John Cobb, A. M.; published by direction of His Excellency Gov. Lincoln, agreeable to a resolve of the Legislature of Massachusetts. Price 50 cents.

W. THORBURN'S Seed Store,
347 N. Market-st. (opposite the Post Office.)

N. B. Catalogues may be had at the Store or sent for by mail, (letters post paid) and will be forwarded as directed.

☞ Subscriptions and advertisements received for the New-York Farmer.—*Albany, March* 3, 1832. 15m

NEW-YORK FARMER AND HORTICULTURAL REPOSITORY, devoted to Practical Husbandry and Gardening, and embracing the most important information in the sciences intimately connected with rural pursuits.—The work contains reviews of the standard and latest publications on Agriculture, Horticulture, and Domestic Economy, communications from practical farmers and gardeners, a weekly report of the state of the grain, vegetable and beef market in the cities of New-York, Boston, Albany, &c., engravings and wood cuts of various improved machinery, farming implements, objects in Natural History, birds, insects, extraordinary fine cattle, sheep and swine. Proceedings of the New-York State Agricultural Society, and Horticultural Societies thoughout the country, and every species of agricultural intelligence will be faithfully recorded.

The NewYork Farmer is published weekly in Albany and N. York, on an imperial sheet, of sixteen pages in the octavo form on good paper with fair type, at $3 a year. The advertising department offers general advantages, particularly to those who wish to dispose of real estate, stock, or any thing relating to the business of farmers and gardeners. The pages devoted to advertisements are numbered separately from the body of the work, and may be bound with it or entirely left out. The N. York Farmer has reached its 5th volume, which commenced in January last. The postage is that of ordinary newspapers.

Communications may be addressed to the Editors of the New York Farmer No. 1 Law Buildings, 20 Nassau st., New York, at the Seed-Store of Mr. WM. THORBURN, 347 North Market-Street, Albany, at which places subscriptions and advertisements will also be recieved.

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Notices of Brazil in 1828 *and* 1829. By the Rev. R Walsh, LL. D. M. R. I. A. *Author of 'A Journey from Constantinople,' &c., &c., &c.* In two volumes 12 mo. pages 290 and 299. Boston, Richardson, Lord and Holbrook; New-York, G. & C. & H. Carvill, and H. C. Sleight; Philadelphia, Cary and Hart. 1831.

CONTINUED.

As the attention of our general government has been drawn, particularly by Dr. Perrine, United States Consul at Campeachy, to the importance of acclimating tropical plants in Florida, the following may serve as an additional encouragement, since the lattitude of the southern part of Brazil corresponds with that of Florida.

'Before we set out, our indolent, ragged, but intelligent host, pointed out to me a plant which was growing in a marshy spot not far from the rancho. This was the ticu palm, (*bartris acanthocarpos*), which the Brazilians are beginning to use as a substitute for hemp and flax. The leaf is long and exceedingly fibrous, covered with small spines. When bent in the middle the ribs of the leaf, which are very brittle, crack and separate; the ends are then drawn down at each side, and leave a series of strong fibres of the best quality behind them, which are very applicable to the purposes of manufacture. The tree is fifteen or twenty feet high, and the stem as thick as the wrist, divided into joints, with a circle of spines round each. It yields also an acid fruit, which grows in clusters on the summit of the stem. It consists of a stone covered over with a pulp, and enclosed in a purple skin, so that it is very like a bunch of purple grapes. The fruit is cooling and agreeable on a hot day, and is sometimes made into vinegar. The stone exactly resembles a cocoa nut in minature, and contains a kernel within also. It is sold in the streets of Rio, and called cocoa titu. The Brazilians expect to find it a substitute for flax and hemp.'

The affairs and prospects of Brazil improved and brightened on the royal family of Portugal being driven from thence, and taking up their residence on this side of the Atlantic. In a monarchial government, conferring titles on distinguished farmers is by no means bad policy, provided their distinctions do not increase their expenses, which Mr. W. informs was the case in Brazil, beyond the income of the knighted farmers.

'There are many such enterprising agriculturists now in activity in the country, among the native Brazilians, whom the late king and the present Emperor have most judiciously ennobled; conceiving that the highest honors should be conferred on the best benefactor of mankind. The proprietor of this place is one of the most distinguished; he was created a baron by Dom John, and a marquez by Dom Pedro. This ennobling of farmers, which I have heard Europeans laugh at, and called a prostitution of title, appear to me to be highly proper and praiseworthy. In the present state of society in this country, the agriculturist is the promoter of its best interests; and he who causes a blade of esculent matter to grow where it did not before, deserves and ought to be rewarded by such honor and distinction, as the government can confer upon him; not only as a remuneration for his deserts, but as an encouragement for others to follow his example. The highest nobility in Europe do now, and those of Brazil will hereafter, date their distinctions from the labors of their ancestors in the field; but in the eye of reason and religion, my friend, which is the most estimable title—that derived from the destruction of human life, or that from its preservation—from him who wasted populous places, or from him who planted populous places in a waste?'

The following is a good description of a hand machine which was seen some 30 or 40 years ago, at almost every farm house on Long Island, and we suppose in other parts of this and the New England States. It was used in pounding Indian corn into samp. The Brazilian method is slower in operation, but less laborious. The mortars used by our fathers was often, if not generally, of wood.

'Among the aids of industry about this fazenda, the old gentleman had a very rude and primitive machine for grinding or rather pounding milho. The grain was previously steeped in water, and then thrown into a large stone mortar the size of a churn. Over this was a long and heavy beam of wood, supported near the centre by the fulcrum of a high post; at one end was a pole shod with iron, at right angles with the beam; at the other a large trough. Into this trough, a stream of water conducted from a hill, fell out of a long spout. When the trough was filled, the beam at that end descended, till the inclined position caused the water again to run out, and then it recovered its horizontality; and the iron shod pole, at the other end descended into the mortar, where a negro sat beside it, to throw in grain and push it under the point. This most clumsy and inefficient machine was exceedingly slow in its operations. A great quantity of water, which at sometimes in the year is very precarious, was unnecessarily expended, and the man's labor was nearly lost the whole day in watching its slow operations.—Yet this is the only implement for pounding mandioca and milho, the two great essentials of life in this country, and it is the effects of slavery. Several attempts were made at Rio to introduce machines to abridge manual labor, particularly at the custom house; but as this would enable them to dispense with the hire of slaves for the same purpose, it was resisted and discouraged by all the proprietors. The same feeling exists in the country, where they are sometimes at a loss to find employment for their numerous black establishments.'

The following may serve as a specimen of the many singular and dangerous objects in natural history, abounding in South America.

'When setting out in the morning, I perceived a large wound in the neck of my horse, from whence issued a stream of blood. Alarmed, lest he should have been stabbed, or wounded maliciously, so as to disable him from proceeding, I enquired into the cause, and Patricio informed me it was occasioned by the morcego. This is a large bat, which, like the devil of Surinam, attacks both man and beast. When a

party under Cabeca da Vacca were exploring the sources of the Paraguay, in the year 1543, they attacked him in the night and seized on his toe; he awoke and found his leg numb and cold, and his bed full of blood; they at the same time ate off the teats of six sows. They fix on the thumbs or great toes of men; and the rumor of the country is, that while they suck the blood through the aperture they make, they keep waving their sooty wings over their victim, to lull him to a death-like repose, from which he never awakes; and in the morning he is found lifeless, and the floor covered with pools of coagulated blood, disgorged by the vampyre when full, to enable him to extract the last drop of the vital current. They sometimes grow to the size of pigeons. One of these horrid animals had attached itself to the throat of my horse when he stood in a shed, and clasping his neck with its broad sooty wings, had continued to suck till it fell off gorged with blood; and if not timely driven away, might have left him dead in the morning. They reckon in Brazil no less than eighteen kinds of morcego, nine of which are voracious blood-suckers.'

The interesting book of our author often abounds with expressions of admiration at the luxuriance, beauty, and variety of vegetation in Brazil. He speaks of some of the trees as 400 feet in height.

'Among the trees which here attracted our attention were the different species of bamboo, some of which were of enormous size, and some of singular beauty. Of the first kind were many which measured two feet in circumference, sending out large lateral branches, and so tall as to resemble forest trees. Others of equal magnitude, without any branches, shot out a single stem, divided into regular joints, smooth and tapering to a point, till they attained to an immense height.—Some were not so thick, but ran up till they became so slender, that they bent down, gradually tapering to a very fine point, as thin as a horse-hair, and waving across the road like long fishing rods. I cut one of them which had shot up from the valley below, about the middle, where it is not quite so thick as my wrist. After carrying it for some time in my hand, where it felt lighter than a cart-whip, I laid it along the road, and measured its length, when I found if fifteen yards long, so that the entire plant must have been ninety feet, tapering and polished the whole way with the most exquisite finish. A fourth species was smaller than the rest, and threw out from the joints a variety of stems, as thin as catgut, and from the points, at the extremities, issued forth loug lanceolate leaves; this was so prolific, that it covered the whole surface of the forest, climbing to the tops of the highest trees, and clothing them with the most exquisite verdure. As we rode along the side of a glen, this plant had sometimes covered the opposite face, where it ran from tree to tree, till the whole sloping surface was covered with a level uniform curtain of the richest drapery. This vegetable substance is highly useful to the people; it is called capim do mato, or grass of the thicket.—Whenever a company stopt at a rancho, near where it is found, the negroes are sent off to cut it, and it affords to the horses and mules the most rich and succulent provender; and to the cattle in the neighborhood, a supply of green and wholesome fodder at all seasons.'

We hope our readers will not be weary of the many and continued extracts, which we make from this work. The ant abounds numerously in hot climates—in Africa as well as in South America.

'But the circumstance that most attracted my attention was the ant-hills. These were conical mounds of clay, raised by the industry of their inhabitants to the height of ten or twelve feet; I rode close to several which were considerably higher than my head on horseback, and nine or ten feet in circumference. The exterior coat is a yellow hard clay, but on making a perpendicular section, the inside is found to be divided by a number of horizontal floors, or stories, of a hard black earth, in thin plates, shining sometimes like japan ware. These are inhabited by myriads of large brown ants, who are capable of exuding a viscid fluid, which tempers the clay to the moisture necessary to form those floors. Some species make covered ways in this manner, and I have seen tubes, or tunnels, of a considerable length, by which they pass and repass, unseen, from one habitation to another, for a considerable distance.

'They sometimes migrate, and their progress is attended with extraordinary circumstances; they then go straight forward, devouring every thing in their way like a flight of locusts. A garden near Rio obstructed their line of march; they found a stick accidentally lying across a deep ditch of water, which they used as a bridge, and continued to pour in such myriads by this passage, that in a few hours the garden was full of them, and everything green disappeared. From hence they proceeded on, till they met the house of Mr. Westyn, the Swedish charge d'affaires, and they made their way through it. He told me he was suddenly awoke in the night by a horrid sensation, and on jumping from the bed, he found himself covered with these insects, whose crawling and biting had awoke him. The whole house was full of them. Impelled by some extraordinary instinct, they continued to advance till the whole body passed through, and the next morning there was not one to be seen. In their progress they devoured every other insect. Spiders, cock-roaches, flies, and every simliar thing of the kind that infested the house, became their prey, and when they disappeared, all other insects disappeared along with them. I have seen them frequently take up their abode in a large bamboo, and every joint of the long cylinder was a separate colony swarming with an ant population.'

AGRICULTURE.

An Address to the Essex Agricultural Society, delivered at Andover, Massachusetts, 29th Sept. 1831, *at their annual Cattle Show.* By HENRY COLMAN. *Published by the request of the Society.* 1832.

The author of this address is, we believe, a clergyman, and has, he very recently informs us, purchased a farm, intending to follow the plough for the restoration of health. The address itself fully establishes his claim to a practical farmer, without any further experience; but before making any extracts illustrative of the valuable practical nature of the address, we would embrace this opportunity to express our dissent from the following introductory expression. 'Agriculture

says Mr. C., 'has little concern with rhetorical flourishes.' Mr. C. means by this, that an agricultural address should consist of plain matters of 'fact, and the results of well conducted experiments'. This sentiment is as erroneous as it is general—yea, indeed totally wrong, but, we grant, universally received. We consider an assemblage of *farmers* convened at an anniversary of their association, to be benefited by the orator, in proportion as they are brought under the influence and sway of real eloquence—in the very proportion that excitement is produced. We do not suppose, neither does any one else, who comprehends our views, that mere 'rhetorical flourishes' will produce this effect, but that it is the power of oratory which makes us feel the force of truth, of obligation, of responsibility, and which arouses the whole soul for the attainment of those objects so beautifully, and so naturally placed before us by the speaker. The occasion of an agricultural anniversary affords an appropriate opportunity for the display of eloquence in the presentation of subjects connected with the prosperity and vital interest of the nation, with the beauties and wonders of nature, and with the moral and intellectual condition of man. The desideratum in any community is not the promulgation of truths, but an excitement respecting them. 'Determined principles, plain matters of fact, and the results of well conducted experiments,' are productive of good, in proportion as their importance is set forth in the beauties and force of speech and oratory—in proportion as an audience is stimulated to make personal avails of benefits to be derived from the truths uttered by the speaker. One orator may, in representing the agricultural condition of our country, arouse every noble and patriotic emotion in the human breast; and in giving an improved method of boiling a potatoe, may show its importance on health in such a manner as to make every hearer feel under moral obligations to adopt it—another may state the same, or more important, 'matters of facts,' and yet no effect is produced. It is quite a mistaken impression, therefore, that a detail of practical operations, or of experiments forms the grand requisite of an address on a public occasion. We hope a revolution will take place—that the field of thought will be enlarged—that talents of high order will not be confined to time and manner of sowing and planting—that farmers will not have so contracted and unworthy views of their profession as to consider true eloquence inappropriate, in an address to the almoners of the world.

We make these remarks, not that Mr. C's production does not come to the standard of 'rhetorical flourish' which farmers themselves have fixed; but because we believe Mr. C. will see the force of them—not that he is dull, for the style is easy, the matter useful, and the sentiments correct.

Practical farmers cannot but be pleased with the following extracts.

'Cultivation increases the products of the land. The more products, the more stock; the more stock, the more manure, and land in general, under generous cultivation and a frugal management of its product and manure, is capable not only of maintaining but increasing its own fertility. The great law of divine providence holds in this as in other cases, the more you do, the more you can do; to him that hath shall more be given. The late Col. Taylor of Virginia, one of the most distingnished farmers in the country, could at one time scarcely manure five acres of his land; but in eighteen years he so increased the products of his farm as to be able to manure one hundred and fifty from the resources of the farm itself. This improvement was chiefly effected by the extended cultivation of Indian corn and a most careful application of the fodder or offal.—Cultivate your farm to the extent of your power of manuring and keeping it clean; and the power of manuring may by judicious management be increased to an almost indefinite extent. Land which, when it is manured, will not more than pay for the labor of cultivation, should be abandoned.

'By fermentation,' says Curwen, 'dung is reduced to one half its bulk and its quality is reduced in greater proportion. The evaporation from dung is five times as much as from earth, and is equal on the surface of an acre to 5000 pounds per hour,' and this is losing its most valuable gases. By making use of dung in its freshest state, the farmer may extend his cropping to one third more land with the same quantity of manure.'

After giving some excellent remarks on manure, he makes the following very just ones, from not practising which, many a farmer has experienced poverty and want.

'English Hay is considered among us as the great crop. The average yield cannot be rated at more than one ton and a half to the acre; a ton in the opinion of many farmers would be a more accurate estimate. This, at the prices which it has borne for several years past, can hardly be considered a valuable crop. It is the crop on which most of our farmers in the neighborhood of large towns depend for obtaining ready money. But the sale of hay from a farm is subject to serious abatements. For every ton of hay sold from the farm, in order to preserve its fertility, the farmer should return a cord of manure. This delivered at the farm cannot be rated at less than two dollars. To this you are to add the expense of marketing the hay, which in any situation is at least a dollar. A ton of hay then consumed on the farm is worth three dollars more than if sold from the place; i. e, if it bring only ten dollars in the market, and by any mode of consuming it upon his place, the farmer can realize that amount from it at home, he may consider it worth thirteen dollars on the farm and ten dollars carried from the place; or to state the case differently, it is better for the farmer to use it at home if he can there make it worth seven dollars per ton to him, than to convey it any considerable distance to market and obtain ten for it. At this rate however,

and I can see no fallacy in the calculation, hay at present prices and yielding one, or one and a half ton to the acre is not a profitable crop. Indeed, unless where there are extraordinary resources for obtaining manure, such as on the sea shore or in the vicinity of bog mud, the sale of hay must be considered as a wasteful kind of husbandry. It is properly speaking, in many, killing the hen that lays the golden egg.'

'Next, let us compare the value of hay with other crops for the feeding of stock. An acre of hay yields one ton and a half of vegetable food; an acre of carrots or Swedish turnips will yield from ten to twenty tons; say fifteen tons, which is by no means an exaggerated estimate. Crops at the rate of twenty-five tons of carrots, and twenty-two of Swedish turnips to the acre have been raised among us, and much larger crops than these are upon record.'

'By an experiment, it has been ascertained that three working horses fifteen and a half hands high, consumed at the rate of two hundred and twenty four pounds of hay per week, or five tons one thousand five hundred and forty eight pounds of hay per year, besides twelve gallons of oats each per week, or seventy-eight bushels by the year. An unworked horse consumed at the rate of four and one quarter tons of hay by the year. The produce therefore of nearly six acres of land in this mode of feeding is necessary to support a working horse by the year; but half an acre of carrots at six hundred bushels to the acre with the addition of chopped straw will, while the season for their uses lasts, do it as well if not better. These things do not admit of doubt; they have been subjects of accurate trial. It is believed that the value of a bushel of Indian corn in straw and meal will keep a healthy horse in good condition for work a week. An acre of Indian corn, which yields sixty bushels, will be ample for the support of a horse through the year.—Now it is for the farmer to consider, whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes, or upon half an acre of ruta baga, which can be raised as a second crop at a less expense that potatoes, or upon the grain produce of an acre of Indian corn, or on the other hand, upon the produce of six acres in hay and grain; for six acres will hardly do more than to yield nearly six tons of hay and seventy eight bushels of oats. The same economy might be as successfully introduced into the feeding of neat cattle. I have known a yoke of oxen engaged in the ordinary labor of a farm, to be kept three months in winter in good working condition upon one bushel of Indian meal and about twenty five cents worth of straw per week; and my own team has never been in better condition both for appearance and labor, than when fed wholly upon a liberal supply of ruta baga and the coarsest fodder. But it has been ascertained by accurate measurement that an unworked ox put up on good old hay consumed at the rate of thirty three pounds per day or two hundred and thirty one pounds per week, which is upwards of six tons a year of two thousand pounds to the ton. There must then be a great saving between feeding in the way referred to or upon English hay; and English hay alone in any quantity without grain or vegetables is not sufficient for any hard working animal.'

The following beautiful and chaste paragraph commends itself to the refined taste, and to the heart of every good man.

'Agriculture cannot be looked to as a source of wealth; but money is far from being one of the greatest goods in life. Its profits under the most favored circumstances must be small, and can only be secured by hard labor, persevering industry, and extreme frugality. Yet the situation of every sober and diligent farmer in our country, may always be one of substantial independence. A comfortable dwelling, a sufficiency of wholesome food, and good clothing, the means of rearing a family, the opportunity of procuring the best education for his children, the power of gradually improving his property and condition, and of accumulating some humble resources against the time of old age and sickness, and above all the quiet and the comforts and endearments of home, and the perfect enjoyment of his religious rights and privileges, are blessings as much within the reach of the industrious and honest farmer of New-England as of the richest man in the world, and are sufficient to satisfy any but an inordinate avarice and ambition. The farmer's gains are honest gains. What he gets, he gets not at the expense of suffering or loss to others, but as the lawful fruits of his own industry and toil. He above all others should be a religious man; for the fruits which he gathers seem to be poured at once into his lap from the divine bounty; and the various domestic animals, which depend on his care, and are to be daily fed from his hand, remind him that he is the almoner of a merciful and kind Providence. Every operation of husbandry, with all its beautiful and miraculous results admonishes the thoughtful mind of that unseen but omnipresent and beneficient agency on which all creatures subsist; andwhich is every where diffusing life, and happiness, and good. The flowers of the field in their splendor and beauty, the birds of the air, who, though they have no store-house, nor barn, are fed by a paternal kindness, the invigorating sunshine, and the fertilizing rain, the fields glistening with the enriching dew or yellow with the ripening harvest, and the cattle upon a thousand hills, all speak to the husbandman, of God, in tones which find their way at once to the feeling and pious bosom. Let his heart and life pour forth a grateful response. In the exercise of an honest industry, who can feel a juster claim to the peaceful enjoyment of its bountiful returns! The possession of these gifts of the divine goodness should remind him of his duty to those whom it gives him the power and privilege to succor and relieve. When the peace and contentment and comfort, which reign in his habitation, are thus enjoyed in charity to his fellow men and in humble piety to God, this earth presents no condition more pirivileged and enviable.'

We hope Mr. C. will not forget his promise to become a frequent contributor to our columns.

Training Cattle.

On a stump or substantial post, fasten a pole with a pin, in such manner the pole will turn round as on a pivot. The pole may be some twenty feet long, and ought to be from the ground the height of the yoke when on the steer, fix the end of the pole similar to the end of a yoke, and then yoke the steer in it. By reversing the position of the steers, one may be yoked at each

end of the pole at the same time. They will soon get so as to travel round the post or stump together. If it is feared the steer may injure himself by twisting round the end of the pole, this may easily be prevented, by mortising in a small bar at the end of the pole. After they are yoked in the pole let them remain a day or two, troubling them no farther than to feed them.—After they have ceased to make efforts to extricate themselves from the pole, and will travel round quietly with it, yoke them together, and there will be no difficulty in using them behind a well-trained yoke of oxen. While yoked to the pole it is well to familiarize them, by rubbing and handling them, that they may learn to be approached without the fear of being injured.

In breaking cattle to the yoke, the first requisite, is, to impress them with the conviction, that they are perfectly subjected to our control, and that all their efforts to extricate themselves from it are unavailing. What is to be avoided particularly, is, to prevent them from learning to "turn the yoke," from becoming sullen, and lying down, and from the habit of running away. Now it does appear to me, that the above mode, of first handling them, is eminently calculated to prevent them from acquiring either of the above vices. It is further recommended in this, that they are habituated to confinement, without the posibility of injuring themselves, and all the necessity of whipping and beating them, in the first handling, is entirely superseded.—One thing to be especially avoided with young cattle, is, not upon any consideration to overtask them.—Should the above be the means of preventing a single scene of inhuman beating of young steers, for turning themselves in the yoke, or of beating them when they get sullen and lie down, or of twisting their tails to make them get up, it will be ample compensation for the trouble of one who subscribes himself, A FRIEND AND ADMIRER OF GOOD OXEN.—*American Farmer.*

Bone-Dust as a Manure for Grain.

The exportation of bones from Germany to England, constitutes a singular epoch in the annals of commerce. Myriads of tons have been already exported without glutting the market, or causing a cessation of the demand. In the vicinity of the North Sea, mills have been erected to pulverise them. This bone powder, or bone dust, was long ago exclusively applied to the purposes of hot-houses by German horticulturists; but, the English emboldened by their riches, have extended its use to general objects of agriculture, and fertalize by these expensive means, their cold, humid, and poorest land—bringing them into the highest state of cultivation.

There is consequently, a proverb, that, "one ton of German bone-dust saves the importation of ten tons of German corn." As Malta formerly covered her naked rocks with foreign soil, so does England now fertalize her clay and sandy heaths with German bones. Near the sea shore, even the church yards are robbed of their venerable relics, which is only ironically excused by rendering the German bone trade popular. An agriculturist having instituted some experiments to test the effects of this manure, obtained the following results—1st. That in respect to the quantity of the corn, it effects a change as 7 to 5; in respect to quality as 5 to 4; in regard to the durability of the energy of the soil as 3 to 2.

It likewise yields the following collateral advantages—1st. It destroys weeds: 2d. It diminishes the necessity of suffering the land to lay fallow: 3d. This concentrated manure or substitute for manure, is more easy of conveyance, less laborious to spread, and can with facility be applied to the steepest vineyards or other inaccessible lands, either in mountainous countries or in wet meadow land: 4th. It renders agriculture practicable without cattle, breeding, graizing, &c.

HORTICULTURE.

The following article is taken from a little work, published at the office of the New-York Farmer, entitled 'The Fragaria: or Description of the most improved Varieties of Strawberries and Raspberries cultivated in Great Britain and the United States: with Directions for their Culture.'

Raspberry—Rubus.

Class and Order.—In the Linnæan arrangement it belongs to the class *Icosandria*, having many, frequently 20, stamens attached to the calyx; and to the Order, *Polygynia*, having more than 10 styles or sessile stigmas.

Species.—Pro. EATON gives the following, Rubus ideus, R. strigosus, R. odoratus, R. occidentalis.

Varieties.—Not as much attention has been given to originating new varieties of the raspberry as of the strawberry. LINDLEY gives the following as the principal and best that are cultivated in England:—1. Antwerp, Double Bearing Yellow; 2. Antwerp, Late Bearing; 3. Antwerp, Red; 4. Antwerp, Yellow; 5. Barnet, Cornswall's Red; 6. Cane, Brentford; 7. Cane, Red, Smooth Cane; 8. Cane, Rough; 9. Cornish; 10. Double Bearing, Perpetual Bearing, Siberian; 11. Double Bearing; 12. Lord Exmouth; 13. Oakhill; 14. Old White; 15. Prolific, Early; 16. Red Malta; 17. Spring Grove; 18. Superb; 19. Taylor's Paragon, Scarlet Paragon; 20. Williams's Preserving; 21. Wilmot's Early Red; 22. Woodward's Red Globe.

A selection of Raspberries for a small Garden.

Burnet	5	Red Antwerp	3
Cornish	9	William's Preserving	20
Double Bearing	11	Yellow Antwerp	4

The wild raspberries growing in various parts of the Middle States are cultivated for market, and could be doubtless, greatly improved in size and productiveness.

Soil and Site.—Almost any soil and site are favorable but a light sandy loam, with slight manuring, is preferable. The double bearing sorts do not require as much sun as the others. They will succeed in some soils and situations, very considerably shaded.

Culture.—They should be set out in rows four to six feet apart, and three feet distant in a row. Some however set them singly much nearer in the row. In the former case, not more than five or six shoots from each root or stool should be allowed to grow up in one season; in the latter only two or three. The ground should be kept free of weeds and of all the dead vines. In pruning, about one-third of the length of the new shoot is cut off. The vines may be supported by stakes or by having the tops tied together.

Mode of Propagation.—The general method of propagating is by young suckers in the spring or summer; and, if convenient, three to each stool, four or five inches apart. A considerable portion of the tops should be cut off, when set out, in order to give more strength to the wood or vine. New varieties are obtained from seed, bearing the second season.

Uses.—The fruit is very grateful to most palates in its native state, and with addition of sugar, or of sugar and milk or cream, the flavor is very much improved. It is fragrant, sub-acid, and cooling; allays heat and thirst. It is used in distilling, to make a cordial spirituous liquor. The raspberry does not undergo the acetous fermentation in the stomach, and is recommended to gouty and rheumatic patients. It is also used as preserves or sweetmeats.

Description.—The Rubus ideus, from which the principal English varieties are obtained is deciduous, fruit bearing, having white flowers; the stems are suffruticose, from 4 to 10 feet high; biennial in duration, but the root is perennial; the leaves quinate-pinnate; the flowers in panicles from the extremity of the present year's shoots, appearing in April and May, the fruit of the wild plant is red.

RURAL ECONOMY.

Silk Manufacture of Great Britain.

The silk manufacture was introduced into England in the 15th century, its early progress was however, far from being rapid. The silk throwsters of the metropolis were united in a fellowship in 1562, and incorporated in 1629; and in 1666 they had no fewer than 40,000 individuals in their employment. The revocation of the edict of Nantes, in 1685, drove about 50,000 refugees to England, of whom those who had been engaged in the silk manufactures of France, established themselves in Spitalfield, which has continued ever since the principal seat of the British manufacture. At this period foreign silks were freely admitted; but in 1692 the refugees obtained a patent giving them an exclusive right to manufacture lustrings and a-la-modes; in 1697 the importation of European silks was prohibited; and 1701 the same prohibition extended to India silks. In 1719 the famous Derby silk mill for preparing thrown or aganzilla silk, was erected by Sir Tho's Lombe, after models clandestinely obtained in Italy. From this period the manufacture advanced gradually, though slowly; but after 1785 the prevalence of cotton over silk, gave it a considerable check. In 1798 the trade began to revive, and has made great progress since, chiefly owing to the facility with which raw silk can be procured from India.

The imports of raw and thrown silk into Great Britian in 1824, amounted to 1,382,357 lbs, of which 1,716,734 were furnished by Italy, and 1,307,300 by the East Indies and China; in 1827 they amounted to 3,146,926 lbs.

It is difficult to form any precise estimate of the present value of the British silk manufactures. Mr. Wilson, an extensive manufacturer, in his evidence before the House of Lords Committee, calculated that 40,000 hands, whose wages would amount to £350,000 were employed in throwing silk for the weaver; that £300,000 were consumed in soap and dye stuffs used in the manufacture; and £265,000 paid to 16,500 winders. The number of looms he estimated at 40,000, affording employment to 80,000 persons, whose wages would amount to £3,000,000.

If we include infants and dependents, about 400,000 mouths will be fed by the silk manufacture, the value of which may be estimated yearly at £10,000,000.

It appears from a parliamentary paper just published, that the quantity of raw and thrown silk for home consumption, imported from the 5th of Jan. 1831, to the 5th of Dec. 1831, amounted to 4,312,605 lbs. The quantity of European silks and ribbons imported in the year 1831, was 148,729 lbs.—*Am. Adv.*

MISCELLANEOUS.

The Gladness of Nature.

Is this a time to be cloudy and sad,
When our mother Nature laughs around;
When even the deep-blue heavens look glad,
And gladness breathes from the blossoming ground.

There are notes of joy from the hang bird and wren,
And the gossip of swallows through all the sky;
The ground-squirrel gaily chirps by his den,
And the wilding bee hums merrily by.

The clouds are at play in the azure space,
And their shadows at play on the bright green vale;
And here they stretch to the frolic chase,
And there they roll on the easy gale.

There's a dance of leaves in that aspen bower,
There's a titter of winds in that beechen tree,
There's smile on the fruit and a smile on the flower,
And a laugh for the brook that runs to the sea.

And look at the broad faced sun how he smiles
On the dewy earth that smiles in his ray,
On the leaping waters and gay young isles,
Ay, look, and he'll smile thy gloom away.

W. C. Byrant.

The Emerald Isle.

The annexed general description of the Emerald Isle is taken from "Bryan's Practical View of Ireland;" a work recently published in London. In reading this comprehensive enumeration of the many striking advantages possessed by Ireland for all the purposes of internal industry and foreign commerce, the conclusion irresistibly presents itself to the mind that a long continued series of grinding oppressions and other kindred measures of bad government could alone have prevented that country from attaining a high degree of prosperity and importance. The day, however, may not be, and we hope is not distant when the manifestation of a different spirit and the adoption of a true policy will cause the "fairest gem of the ocean" to sparkle in all the lustre of enlarged and enduring prosperity.—*Baltimore American.*

"The summers in Ireland are the most temperate in Europe, the winters the mildest; cattle remain unhoused from January to December. The people are naturally hardy, easily subsisted, and singularly vigorous, laborious, and intelligent, considering their opportunities. The face of Ireland is singularly picturesque, yet eminently adapted for all the purposes of commerce and communication. By its general level no point of land is two thousand feet above the plain, and no land in Europe abounds so much in

chain of lakes; in rivers flowing in different directions and a perpetual supply of water.

Ireland might be made a country of water communication throughout its whole length and breadth.—She has more harbors for ships of the largest size than the whole of Europe, the single western coast containing, for two hundred miles, but a succession of the most magnificent ports. It is the nearest coast to the western world—the course is direct from thence to Portugal and Spain—to the Mediterranean—to the whole navigation of the immense regions south of Gibralter—the coast of Ireland is the first made by every sail from India, Africa, and America. It has been ascertained that before a vessel from the port of London gets out of soundings a vessel from the west of Ireland may reach America. Ireland seems by its position, by its western harbors, and by the facility of communication over every part of its surface, to have been actually intended as the great centre of intercourse between the old world and new. It is large, containing 32,301 square miles; of all this space, the indenting of harbors, arms of the sea, and river mouths, are so numerous, that there is not an acre above fifty miles from the sea."

THE FARMER.

Thursday, June 21, 1832.

EDITORIAL CORRESPONDENCE.

LETTER XXV.

Natural Scenery of Albany.—To a stranger who confines his perambulations within the limits of the paved streets, Albany presents but few attractions of a rural nature. Abrupt ravines with banks destitute of verdure meet his eye in almost every direction. If he takes the rail-road, though rapid be the succession of objects, yet clay and sand banks, and unbroken plains covered with shrub-pine constitute almost the entire scenery, until he reaches the summit of the declivity over-looking the alluvian flats of the Mohawk, where stands the city of Schenectady. Should a few days of rain succeed his return, his dislike of Albany, so far as rural scenery is concerned, becomes fixed.—But if he surmounts the rise of ground beneath which lies the greater part of the city, and casts his eye abroad, he discovers an extent and variety of prospect that exites curiosity, and a desire to take new positions. South, and within a quarter of a mile of the Capitol, is Bement's Cottage Garden. Seated in the rear piazza of the Hall, and directing his eye to the right, he will look down for some 10 or 12 miles, where the proud and all-powerfull Hudson, more complaisant to the rich alluvian islands and meadows than to the hills and imperishable rocks, condescends to flow in a winding course. Here the inflated canvass and contending steamers enliven and give interest to the scene. Taking a wider vision, the cultivated fields, the woods, and the far distant blue hills of the eastern declivity afford a rich and extended prospect. To the left are seen the steeples of the churches, the gilded dome of the City Hall, and a considerable portion of the city; and beyond these, the Hudson embosomed by cereal declivities and sylvan hills that disappear, at some 30 or 40 miles distance, in the azure heavens.

If our stranger, by this time, is too much under the sublime eloquence of nature to regard the gay and beautiful flowers, the delicious fruits, and the shady promenades, which the Garden affords, he may pass the inclosure of the premises, and immediately enter a wood of pine, oak and other forest trees. Continuing his walk for about twenty or thirty rods, he suddenly finds himself on a jutting prominence of a rock, directly beneath which is a ravine of 100 feet deep; and at the bottom runs a stream that has just descended a most beautiful cascade of 60 feet. The banks and the bed of the creek consit entirely of an argillaceous rock, which the elements and the stream have worn away to this astonishing depth. At the very margin of the summit of the rocky banks, stand full grown forest trees feebly supported by roots that penetrate the crevices, and threating every moment to fall, to carry with them huge portions of the rock, and to bury in ruin him who has had the curiosity and termerity to descend to the bottom. Within the distance of half a mile the water falls at least 100 feet, and the banks, varying from 5 to upwards of 100 feet in hight, present one entire mass of rock. The whole scene is wild, grand, and beautiful, exhibiting to the lovers of nature a greater natural curiosity than any other city of the Union can present within its precincts. A few hundred dollars expended in improving the Cottage Garden, in clearing away the under brush in the woods, in cutting steps to descend the rocks, in erecting seats, railing and sylvan temples, and in constructing fountains and jets d'eau, would, especially when the stream was swollen with rains, make it one of the most healthful, delightful, and attracting places of resort, which the whole 'fasionable tour' presents.

Leaving the Cottage Garden, and going south you come to Mount Hope Garden, owned, but not occupied, by Gen. Soloman Van Rensselaer. Here the prospect is beautiful and extensive—an admirable airy situation for a country residence, or for accomodating boarders in summer. Continuing on about two miles from the city, you arrive at Kittenhaughten hill. At this place is a very indifferent house, the grounds are poorly cultivated, and unornamented with any kind of trees and flowering plants; and yet the prospect of the river, the city, and the surrounding country, is charmingly beautiful. From no position does Albany show so advantageously—its whole extent is in view, and yet all the uninviting aspects are concealed by the intervening vegetation. The water, the cultivated

fields, the forests, the different heights and declivities of the hills, the city, and the vessels on the river,—all enlivened in the full splendor of the sun—make this one of the most mellow, varied, and the richest landscapes to be seen along the Hudson.

There are other beautiful situations on this route, to which I was taken by mine accomodating host, but time and space, will not, in this letter, permit me to notice them. The more I studied of the natural scenery of Albany the greater was my admiration, and the stronger my convictions of its susdeptibility of being greatly improved by landscape gardening.

Albany, June 7, 1832.

Farmers' Work for July.—*Hay & Grain*—this is a very important month with farmers. Every minute of time is valuable. In order to sustain the fatiguing and exhausting labor of this month, the farmer should husband his strength. He should retire early, that he may rise before the sun. To obtain good sleep, which is so essential to the preservation of strength, he should be very regular in all his habits, and none but the mildest drinks should be taken—clear water or with the addition of milk or molasses. Very salt meats should be avoided, as they together with the perspiration, cause excessive thirsts. Good sleep, uniform appetite, and moderate drinking are necessary in haying and harvesting.

A full supply of able and temperate men, should be engaged several weeks before commencing to mow.—Every thing requisite to have the work expeditiously and well done, should receive early attention. The hay and grain well cured, and harvested, and timely secured, should be a primary object with every farmer. And accordingly no pains should be spared to accomplish it.

If necessary to cart the hay into the barn before it is fully cured, salt should be sprinkled amongst it, as it is mowed: and if convenient, layers of dry straw should alternate with the hay. Wheat, it is said, should be cut before the grain is fully ripe or hard. Some millers, however, disapprove of it—think less flour is obtained.

Turnips.—The next important crop, to which the farmer will give his attention, is that of turnips. New land of deep black soil is congenial to this vegetable; sward having lain sometime in grass is very suitable. The ground should be free from stone, moist rather than dry. Ashes and yard manure are used for turnips. The ground should be well prepared by ploughing and harrowing. Whether sowed in drills or broadcast, they should receive one or two good hoings.—Those who from past experience, have had occasion to apprehend the destruction of their turnips by insects, should sow their seeds in beds where the young plants can be protected; and at favorable times transplant them. A little practice with a dibble will enable a person to set out from two to five thousand plants in a day. By sowing at different times, young plants can be had in succession, for several weeks, to supply the places of those that die or get destroyed.

Diseases of Peach-Trees.—The grub worm or borer so injurious to peach-trees is not killed by a strong solution of corrosive sublimate. The best method is to examine the roots for a few inches under the surface, two or three times, at the season when most liable to be injured. With a sharp pointed knife the worms may be detected, and cut out. Tan-bark, put around the roots four or five inches deep, preserves them.—If any one tree shows indications of the yellows, it should be immediately cut down or dug up. Soon after the tree is attacked by the yellows, several feeble branches grow out together in various parts of the limbs.

Ploughing in Straw.—If the plough boy has considerable straw not wanted for litter in the yard and stables, and not marketable, he should spread it over the ground designed to be ploughed but once, and have some one to follow the plough and rake it into the furrow. This straw will decompose gradually, and very materially benefit the land.

Cutting Corn Stalks.—It has been ascertained by nice experiments that the cutting of top stalks when pretty green, diminishes the weight of corn.—The full maturity and perfection of a plant, and consequently of the seed, depends on the continuance and healthy state of the leaves. They perform the functions of the lungs of animals. The sap cannot fully elaborate without the aid of the leaves; and hence the quantity and quality of the fruit are affected by them.

Agricultural Society.—A convention was held at the Court-house in Wayne county, on the 22d ult., for the purpose of forming an Agricultural Society in that county; David Arne, Jr., chairman, and Hiram K. Jerome secretary. A constitution, reported by a committee, consisting of Myron Holley, G. H. Chapin, Wm. Ford, Theodore Patridge, and Ananias Wells, was adopted, and the following officers chosen:—

Thomas Armstrong, President.
Ananias Wells, 1st Vice-President.
Jonat'n Boynton, 2d "
Hiram K. Jerome, Rec. Secretary.
Myron Holley, Cor. Secretary.
Wm. H. Adams, Treasurer.

A committee was appointed to petition the legislature in favor of a suitable appropriation of funds for the advancement of Agriculture in the several counties of the state.

NEW PUBLICATIONS.

Notices of Brazil in 1828 *and* 1829. By the Rev. R Walsh, LL. D. M. R. I. A. *Author of 'A Journey from Constantinople,' &c., &c., &c.* In two volumes 12 mo. pages 290 and 299. Boston, Richardson, Lord and Holbrook; New-York, G. & C. & H. Carvill, and H. C. Sleight; Philadelphia, Cary and Hart. 1831.

CONCLUDED.

The following may serve as an instance of the injudiciousness of seeking gold at the expense of agricultural resources. The writer is speaking of the town of Villa Rica.

'The sudden and enormous wealth acquired in this way, was soon bruited about with great exaggeration; people flocked here till the population at one time amounted to 30,000 persons; large edifices were every where erected by residents, and grand hotels for the visitors; and to a stranger, the town really appeared the most opulent in the world.

'After some time, however, the source of its opulence began to fail, the currents brought down but a scanty and irregular supply, and the disappointed speculators were ruined. A few fortunate adventures succeeded in lighting on rich streams, and built fine edifices; and others, equally sanguine, did the same by anticipation, and were disappointed. In the mean time the riches on the surface were neglected for the imaginary ones they expected from below; the vegetable soil was destroyed by washing, and the capital, which might have converted it into permanent wealth, was exhausted in visionary projects; and the inhabitants without arable land or means to cultivate it, became a nest of beggars, and the town a heap of ruins, as infamous for its crimes, as it had been famous for its riches. It was filled with needy gamblers in gold; their moral habits, like those of all who live at hazard, were totally depraved; and they became robbers and assassins; scarce a night passed that murders were not perpetrated in the streets, and a respectable inhabitant informed me, that all the attrocities detailed in the English newspapers in a year, did not equal those perpetrated unnoticed in the dark alleys of Villa Rica. By degrees, however, these desperadoes were all absorbed; they were either killed off, or they abandoned the place, till the population was reduced from thirty to seven thousand, at which it still remains. This remnant, taught by experience, are wisely directing their attention to other and more profitable objects; it is now a thriving and industrious place, and has changed its ill-omened and ill-applied name for that of another.'

We again find three more paragraphs on vegetation, which we wish to lay before our readers.

'On the hill opposite the rancho was a magnificient bombax in blossom. It was of immense size, and, with its tall and straight stem bristling with broad flat spines, its large palmate foliage, and bright ruddy flowers resembling rich tulips, it was perhaps in that state, one of the most beautiful trees, in the world. The flowers are succeeded by immense pods as large as human heads, which burst and display long silken fibres like hair, to envelope the seed. This is used to stuff pillows, and for other domestic purposes.'

'I brought with me some of the unopened buds o the cactus, and laid some in water, and some dry on the table in my room. I found at midnight that they had expanded, and lay like small basins of white china, which they resembled in size and color, so that the nocturnal blowing is common to all the genus, and not confined to the night-blowing cereus. I was up at five, before sun-rise, and all those on the tree were in full beauty. Before our departure, at seven o'clock, the sun had risen, and they were all drooping and withered.

'Fazendas were abundant on all sides, and the hedges were generally the American aloe, *(Agave Americana).* This magnificient plant, which I found in every part of the country, forms a circle of lanceolate leaves, sometimes eighteen feet in circumference; the leaves themselves being eight feet long, exceedingly strong and sharp. The flower-stem is two and a half feet in circumference at the base, and shoots up to the height of thirty feet; from this project innumerable horizontal footstalks, from whence hang myriads of campanulate blossoms, so that the form of this grand flower is that of a pine-tree, for which it might be mistaken. I saw in some places when I set out, this stem beginning to protude itself from the midst of the leaves, and on my return it had attained the magnitude of a pine-tree of twenty years growth. What an idea does this give of the vigor of vegetation in this country, where such a vast mass of beautifully organized vegetable matter could be formed in so short a time from one root! Its existence, however, is as short-lived as its growth is rapid; already had the succulent stem begun to decay at its base; and a strong wind had prostrated many of them across the road, the dimensions of which I measured. The stems lay rotting and useless, but the leaves yield a strong fibre, which is twisted into cordage.'

Brazil will, under an enlightened and free government, become a prosperous and a wealthy country. The climate, even in its present uncultivated state, appears healthy.

'At St. Jose, during the chuve fria, and its continuance, the sensation of cold was disagreeable, and the thermometer fell to 64° Fahr. Its greatest range was from that to 79°, but it generally stood at 69° and 70°, that, you will recollect, was a midsummer heat, and the general feel of the air was quite refreshing and delightful. But it was also the rainy season, a mortal period in every other tropical climate. For eight or nine hours a day, during some weeks, I never had a dry shirt on me, and the clothes I divested myself of at night, I put on quite wet in the morning. When it did not rain, which was very rare, there shone out in some places a burning sun, and we went smoking along, the wet exhaling by the heat, as if we were dissolving into vapor. Such weather in Africa, in a corresponding latitude, no human constitution could bear; and almost every European who has encountered it, has fallen a victim to it. But not so in Brazil; no one is affected by those states of the atmosphere which are so mortal elsewhere. For myself, I never enjoyed higher health or spirits, than when I was actually dissolving in sun or rain, either by heat or wet. It appears to me then, that the account left by Cambrensis, of the ancient salubrity of Ireland, may be also applied to modern Brazil; and it has with some reason grown in a proverb, that it is a country where a physician cannot live, and yet he never dies. There was

no doctor at S. Jose, but I was told there had been two at Joao d'el Rey, and that one of them had left because he could get no patients, and that the other, for a long time, had no patient but himself.'

'The varied face of nature also, is another striking circumstance in this country. In the course of my journey I passed over six different surfaces, strikingly distinguished from each other in their aspect, formation and productions. The first was the Beira mar, the rich plain which extended from the edge of the sea to the base of the great serra, generally about sixty miles in breadth. This is, with some exceptions, a flat surface, with an alluvial or sandy soil, exceedingly fertile, covered with fazendas, and generally well cultivated; in which the original forests of the country have been almost entirely superseded by bananas, mangas, and other fruit-bearing trees, and the roads lined with clipped hedges of mimosa, resembling those of hawthorn in England. Among the plants confined to this district; and which I did not observe out of it, is the balsam, (*momordica balsamina*), so highly prized in the East. It covers all the trees and hedges with its flexible climbing stems, and ornaments them with its yellow flowers, and long pendant orange pods as large as lemons; these last when touched are very sensitive, immediately burst open in separate flakes, which curl up and expose on the inside ranges of large flat seeds, enveloped in an aril or coat of rich scarlet, shining in a lucid gum, which contrasted with the bright yellow of the pod, give the plant in that state an appearance not less beautiful than singular. The Arabs of Egypt and Palestine, and the Turks of Asia Minor, infuse these pods in oil, expose it to the sun till it becomes red, and then apply cotton dipped in it to fresh wounds, and prize it above the balsam of Mecca. I suspect it was originally imported from hence with other oriental plants, which are now equally common in Brazil, though its value as a vulnerary is not yet known or appreciated.'

The spiders of that country are numerous and large. Our Rev. author had his light straw hat unceremoniously taken from his head, and entangled in their webs as he rode along.

'Among the insects is an enormous spider, which I did not observe elsewhere. In passing through an opening between some trees, I felt my head entangled in some obstructions, and on withdrawing it, my light straw hat remained behind. When I looked up, I saw it suspended in the air, entangled in the meshes of an immense cobweb, which was drawn like a veil of thick gauze across the opening, and was expanded from branch to branch of the opposite trees, as large as a sheet, ten or twelve feet in diameter. The whole of this space was covered with spiders of the same species (*araneama culata*), but of different sizes, some of them, when their legs were expanded, forming a circle of six or seven inches in circumference. They were particularly distinguished by bright spots. The cords composing the web were a glossy yellow; like the fibres of silk worms, and equally strong. I wound off several on a card, and they extended to the length of three or four yards.'

'A gentleman of Languedoc, some time ago attempted to establish a manufacture of spider silk, and so far succeeded that he made gloves and stockings from the fibres of the web; the great objection however, to his success was, the implacable hostility of these insects to each other. Rehumur, placed five thousand in fifty different cells; but the larger destroyed the smaller, till but one or two were left in each cell. This objection to the process did not exist in this Brazilian species; for here the insect was not solitary, but gregarious; and colonies of more than one hundred occupied the same web, and lived in amicable community together. Conde Linhares had intended to make some experiments on the tenacious threads of this spider, but it remains for others to carry his intentions into effect.'

We will detain our readers with only one more extract from this interesting work.

'But among the trees, which gave the woods, to an European, a peculiar character, none was more striking than the singularity of the palm trees. These were seen shooting above the rest to an immense height, with their long and slender stems, crowned with feathery foliage, like ostriches' plumes, waving in the air; and of all these, the assai (*euterpe oleracea*), is the most elegant and beautiful. It is the taper palm which yields the cabbage. It rises from a slender stem, not more than six inches in diameter at the base; and it shoots up to the height sometimes of 100 feet or more. The stem is marked by annual rings, five or six feet asunder, and near the summit is a long succulent cylinder, from whence the leaves issue. This green footstalk contains the embryo of the plant. It consists of the rudiments of the future leaves, beautifully plated, and convoluted at the centre; and their developement from hence forms the elegant tuft that crowns the summit. This portion is exceedingly tender, yielding a pleasant and wholesome vegetable, like cabbage, boiled, and eaten with meat. From all parts of the woods, this elegant tree was seen shooting above its companions, waving in every breeze its long flexible stem, and its tuft of light silken leaves. It seemed, indeed, to belong more to the sky than the earth; for in some places, it crowned the summit of the highest ridges, and was the only one whose foliage was seen projecting on the blue sky, like Bernice's hair floating in the starry firmanent; for the stem that supported it, was so slender, that it could not be discerned in the distance. It was with great regret I first attacked this beautiful tree, and utterly destroyed it for the small portion of its esculent part. When we saw it growing on the side of a hill, near the road, we siezed its taper stem, and bent it down, till it snapped off near the root, and lay prostrate across the way. Here with a faka, we cut off its graceful head, and left its body to decay. In any other country, this might be deemed a wanton and unjustifiable act of destruction; but in this it was only removing that which encumbered the soil with its profusion.'

Mr. Walsh found the inhabitants far more liberal than he expected, considering they are rigid Catholics. Newspapers are read with great interest. When the slow post arrives whole neighborhoods in the interior, assemble to hear the papers read.

From Rio Janeiro there were exported, in 1818, 11,874,304 lbs of coffee., and in 1828, 58,871,360 lbs. Of Sugar, there were exported in 1828, 19,126 cases, 465 boxes, 13, 867 barrels. Of Hides, in 1828, 206, 277. In 1828, of cotton, 312,320 lbs.

AGRICULTURE.

Making Butter.

The vessels containing the milk should be perfectly clean. The room should be well ventilated on all sides, except where the sun enters. The cream should be put into stone jars and covered that not a particle of dust enter. When churning and when working the the buttermilk out, no water is to be added. The purest fine salt is to be thoroughlyincorporated,and the butter kept from the air, by tying a cloth over the jar, and putting a board or lid on the top. If it is packed down, very clean and purified brine poured on will preserve it well.

The practice of carrying butter to the country stores is a bad one, unless arrangements can be made to obtain a price according to its quality. Arrangements should be made with families, in a neighboring village or city to purchase the butter at its true and relative value. The following article from the *American (Maine) Standard*, shows the poor encouragement given to good butter makers, by country stores :—

We were one day chatting with a store keeper, when there came in a comely, neat, good looking woman, and asked him what he gave for butter : ninepence, Ma'am, *store pay*, if it is good. I believe it is good, said she, very modestly. I have taken much pains with it, and was in hopes to have got more than that. I will look at it, ma'am, but I can't give more than that. The butter was accordingly exhibited. It was neatly packed in a box, and the box enveloped in one or two wrappers of wet cloth to keep the butter cool. It was very nice and good, but the woman could get no more than nine-pence, *store pay*. A short time after, in came a bouncing lass, the very reverse of the good woman before mentioned, for she was slip shod ; and her face and hands spoke plainly, that soap and water were *not over* intimate with them. Buy butter here? Yes ma'am, if it is good. What ye give? Ninepence, *store pay*. A pail was accordingly introduced with a small rag thrown carelessly over the contents. The store keeper looked at it. He thought it was not sufficiently worked ; it had got a little *dusty* on the way to market ; however, he would take it—and accordingly weighed it out. We could not but remark the difference. The buttermilk was gushing forth in rich profusion from every pore, and ever and anon a ball would fall to peices as it was removed from the pail to the scales, and from the scales to the tub ; proving most philosophically that two substances cannot occupy one and the same space, and in the case of Butter *versus* Buttermilk—Butter in the contest for space came off second best. Now who in the world will take the trouble to toil and labor—for no small toil and labor it is to make good butter—who, we say, will go to the trouble of it, when they fare no better than those who merely shake their cream together and sell it for butter, before it is half churned ?

Lime as a Manure.

In a review of ' Lambert's Rural Affairs of Ireland,' Loudon has the following remarks :—

'In his chapter " Lime as a Manure," he says, " an experienced writer on this subject states,that he has had many opportunities of observing total barrenness produced by a too liberal use of it ; but if introduced with judgement, it will produce very useful permanent changes in the soil to which it is applied." Now after such an observation, surely the author, without risking the charge of introducing useless verbiage, might have been a little more explicit on the subject; for there is no manure, stimulant or alterative, whichever it may be called, so universally employed as a manure on arable land ; and the least hint insinuating or injudicious to abstain entirely from using it. He ought, where a positive evil had occurred by its application, to have submitted a remedy, and informed his readers that a dressing of peat-earth would have almost immediately corrected the evil, by offering a medium through which the caustic porperties of the lime might become a source of fertility instead of barrenness ; and, above all, the different quality of lime made from magnesian limestone, which is common in Ireland, and that which is made from common limestone, should have been pointed out. Quicklime of any kind applied to land deficient in vegetable and fibrous matter, will most assuredly prove injurious ; without such matter, the lime will retain, for a long time, its caustic properties. It is this fibrous and vegetable matter which yields the carbonic acid, with which the quicklime combines and ultimately becomes mild, or corbonate of lime ; and it is during the process of this combination that the greater part of this vegetable and fibrous matter which was insoluble is converted into soluble or fertile matter.—Afterwards the mild or carbonate of lime operates, as a manure, in a directly contrary way to quicklime ; quicklime, by rendering matter which was inert, nutritive; mild lime, by retarding the too rapid decomposition of those very substances which, in its conversion from quick to mild lime, it had decomposed.

If, then, it should appear that some judgement is necessary in the proper application of common lime to agricultural purposes, and every farmer will admit that he is frequently puzzled how to apply it ; must not the difficulty be infinitely greater when he has to apply lime made from magnesian limestone,in whichthe affinity for carbonic acid is considerably less. Thus, in the application of lime made from this stone, while any, the least part, of the lime remains caustic, it attracts carbonic acid from the magnesia, consequently the magnesia must and does continue caustic and poisonous for an indefinite period ; at least until peat or some other vegetable matter is applied to afford a proper supply of carbonic acid, by which alone it can be rendered beneficial or fertilising.

Manure.

In general, most land will much more than pay for cultivation. But it costs labor ; so does every thing else in life, that is worth having. It requires manure, true ! but cultivation is the great means of obtaining manure. Cultivation increases the products of the land. The more products, the more stock ; the more stock, the more manure ; and land in general, under generous cultivation, and frugal management of its products and manure, is capable not only of maintaining but increasing its own fertility. The great law of divine providence holds in this as in other cases, the more you do, the more you can do ; to him that hath shall more be given.—*Colman's Address.*

HORTICULTURE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Fruit Trees—Enquiry.

Why do fruit trees cast their fruit and how may it be prevented? I have on my farm a very vigorous plum tree, which, for several years past, has given great promise of an abundant crops, but to my great disappointment, has regularly about the middle of the month of June cast its fruit. This is the more provoking, inasmuch, as the fruit wears a healthy appearance and has attained to the size of a pigeon egg, and the richness of the foliage of the tree is unimpaired.—Will any experienced cultivator show my difficulty, and oblige, RUSTICUS.

Remarks.—'Rusticus' should have closely examined his fruit to detect the *curculio*. We know of no other cause calculated to produce the effect. The falling of fruit about this season is very common—but observation and examination will undoubtedly lead to the cause.—*Editor.*

New-York Horticultural Society.

PROCEEDINGS.

Not having published the exhibitions before the Inspecting Committee as they were weekly reported, we are unable to give them as full as we could wish.

April 24.—Mr. Hyslop presented from the garden of N. Prime, Esq. two quarts of bush beans; also, a beautiful bouquet of cut flowers.

Mr. Oakley, Flowers of the Amaryllis formosissima, Primula auricula, Pittosporum, Roses, var. Diosma, Anemone thalictroides—Primula elatior, Jasminum, Camellia myrtifollia, and two trusses of Primula auricula, very beautiful.

Mr. Warner, Flowers of a great variety of Hyacinths; and a branch of an Apricot tree from the open ground, with fruit the size of hazel nuts.

Mr. Neale, Flowers of Viola grandiflora, dark purple.

May 1.—Mr. John Curr, three Cucumbers, two of which measured in length *twelve inches each.*

Mr. Neale, twelve sorts of early Tulips.

Mr. Kennersley, a great variety of fine Hyacinths from the open ground.

May 8.—Mr. Neale, Flowers of the Coronilla—Rosa semperflorens, Phlox divaricata, Phlox stolonifera, Iberis (white,) and sixteen varieties of early Tulips.

Mr. Groshon, a bouquet of China Roses.

May 15.—Mr. Hogg, Flowers of the Anagallis Monelli, Pelargonium (Princess Augusta,) Pittosporum Tobira, Mimulus sylvestris and luteus, Verbena Chamœdryfolia, [?] Kennedia bimaculata, and a new species from N. Holland, Senecio elegans. Mr. Hogg presented many other rare plants.

Mr. Duflon, from his garden at Brooklyn, thirteen varieties of single and double Tulips.

Mr. Oakley, Geranium maculatum, Prince Regent and Ivy leaved Azalea nudiflora, Polemonium reptans, Phlox divaricata.

Dr. Ireland, a pot of very fine seedling Polyanthus.

June 5.—Mr. Neale, a quantity of Rhubarb Stalks, from a seedling plant; six stalks weighing 3lb. 4½ oz. Roses, odorata, sanguinea and monthly China. Veronica officinalis, and twenty-six sorts of Tulips.

Mr. Hyslop, two quarts early frame Peas, well filled, from the garden of N. Prime, Esq.

Mr. McClinchy, Gardener to Edward R. Jones, Esq. Hurlgate, six early Turnip Rooted Beets.

Mr. Oakley, Roses, microphylla, de meaux, and pyramidalis.

Mr. Hogg, a beautiful collection of Roses—Rosa Harrisonia, a bright double yellow, being a seedling raised by Mr. Harrison, from the Austrian Rose, single yellow, a seedling. Clintonia, Jacksonia, Adamsonia, Hibertia, Hamiltonia, Duc de Berri, Amaranth, Sanguinea, dark, red, white and blush Scotch, double cream coloured seedling; white multiflora; a splendid display of Geraniums, and numerous other beautiful flowers.

Mr. Knox, monthly Honey Suckles, several varieties of Pinks, Periwinkles, Violets, Sweet Williams, Roses.

June 19.—Jacob Lorillard, Esq. President, in the Chair—A letter from Sir Henry Whitlock, of London, was read. This was accompanied by a box of seeds brought by him from Persia and Turkey. They are described as the seeds of trees, shrubs and plants suited to the climate of the United States, many of them having been collected in the mountainous parts of Persia, where they were covered with snow four months in the year, and all of them are deemed hardy. The following are described:

The Paper Almond, or Badaam Kaghizee, of Persia.

The Laurel of Trebizond—grows to the size of a forest tree, and its fruit eatable.

The Senjeed, a hardy tree, grows to the size of the willow, and in similar soil. Its flowers are so odoriferous that their fragrance may be observed the distance of a mile; and its fruit is also eatable.

The Persian Rose Tree, or Nasteran, grows to the height of 20 feet, its top depending gracefully like that of the weeping willow; its flowers very odoriferous, of a pale amber colour, and the branches entirely covered with the blossoms.

Fourteen varieties of ornamental and aromatic plants, gathered on the mountains near Tabriz, not named, and most of them new to English Botanists.

A species of Broom, the Persian Pea "Nakhood," Melons, Gourds, Pumpkins, &c.

Nine species of hardy trees and ornamental shrubs growing near Constantinople, all of which were distributed among the members present.

In addition to the above, Sir Henry has sent a packet containing seed of the celebrated *Sheraz Tobacco*, so celebrated in the markets of the East for its delicate perfume. This was accompanied by a memoir prepared at the request of the philanthropic donor by Dr. Risch; and as this seed will be distributed, and a part of it sent by the Society to their correspondents in the Southern States, they deem it advisable to publish Dr. R's remarks on its cultivation and preparation. [We will publish these in our next.]

The thanks of the New-York Horticultural Society, and of the whole community, are due to Sir Henry Willock for this valuable communication: and those who have it in their power will confer a particular favor on the Society by forwarding to the care of the President the seeds of any rare, useful or ornamental

plants natives of this continent, to be transmitted to Sir Henry in return.

The Inspecting Committee then examined the vegetables, fruit and flowers presented for competition and exhibition, viz.

Mr. Dick, from the garden of Mr. Chesterman, at Harlem, presented two Cauliflowers, weighing together 3 lbs. 12 oz.

Mr. Hyslop, from the garden of N. Prime, Esq. a Cauliflower weighing 2 lbs. 10 oz. and measuring 26 inches in circumference. Also, two heads Wilson's Lettuce, weighing together 4½ lbs. and a dish of very large Strawberries, which were the produce of seedling plants.

Mr. Wilson, Peonies of extraordinary size, 25 varieties of Roses, 8 sorts of Pinks.

Mr. Oakley, a beautiful bouquet of Flowers.

Mr. Hogg, a choice selection of Roses.

Mr. Knox, a bouquet containing some fine Roses, Delphineums, Honeysuckles, &c.

Mr. Neal, Peonia Whitleji, Delphinium Grandiflorum, eight varieties of Roses.

MISCELLANEOUS.

Bring Flowers.

BY MRS. HEMANS.

Bring flowers, young flowers, for the festal board,
To wreath the cup ere the wine is pour'd;
Bring flowers! they are springing in wood and vale,
Their breath floats out on the southern gale,
And the touch of the sunbeam hath waked the rose,
To deck the hall where the bright wine flows.

Bring flowers to strew in the conqueror's path—
He hath shaken thrones in his stormy wrath!
He comes with the spoils of nations back,
The vines lie crush'd in his chariot's track,
The turf looks red where he won the day—
Bring flowers to die in the conqueror's way!

Bring flowers to the captive's lonely cell,
They have tales of the joyous woods to tell;
Of the free blue streams, and the glowing sky,
And the bright world shut from his languid eye;
They will bear him a thought of the sunny hours,
And a dream of his youth,—bring him flowers, wild flowers!

Bring flowers, fresh flowers, for the bride to wear!
They were born to blush in her shining hair.
She is leaving the home of her childhood's mirth,
She has bid farewell to her father's hearth,
Her place is now by another's side—
Bring flowers, for the locks of the fair young bride!

Bring flowers, pale flowers, o'er the bier to shed,
A crown for the brow of the early dead!
For this through its leaves hath the white-rose burst,
For this in the woods was the violet nursed.
Though they smile in vain for what once was ours,
They are love's last gift, bring ye flowers, pale flowers!

Bring flowers to the shrine where we kneel in prayer,
They are nature offering, their place is *there!*
They speak of hope to the fainting heart,
With a voice of promise they come and part,
They sleep in dust through the wintry hours,
They break forth in glory, bring flowers, bright flowers!

TO THE EDITOR OF THE NEW-YORK FARMER.

Mastodon.

The bones of this animal are now to be seen at the American Museum of this city. They were found in the month of September, 1830, by Capt. Finnell, at a place called the Big Bone Lick, in the state of Kentucky, about twenty miles below Cincinnati, and about two miles south of the Ohio river. They are impregnated with salt, sulphur and iron; and diffuse a smell of animal matter when cut, or sawn or subjected to heat. The animal is supposed to have been more than twenty feet high; which gives a larger dimension than that of any other of which we have any knowledge. Its head differs somewhat from that of the elephant—though these two animals may be considered as belonging to the same group or family.

The skeleton, except the head of an individual which appears to have been of the same species with the one under consideration, was dug about thirty years ago, from a limestone quarry, in the county of Orange, N. Y.; and is now to be seen put up in Mr. Peale's Museum in Philadelphia. It is about thirteen feet high; and its head being artificial, is made to resemble that of the elephant. But this, according to the specimen before us, should not be so.

I have examined the Boa of the American Museum, and find it to be a Boa in fact. It has anal hooks and the scales under the tail are undivided. There is a snake there of a spotted, yellowish cast, nearly six feet long, and called a Coluber, or Pine snake of New Jersey, which I have also examined, and find it to be not a Coluber, but a Natrix, as it has no anal hooks, and this makes ten species of that genery that I have become acquainted with. FRANKLIN.

New-York June 18th, 1832.

TO THE EDITOR OF THE NEW YORK FARMER.

Tour from New York to Philadelphia.

Elizabethtown is incorporated, and called a borough; and contains about three thousand inhabitants. It has long been famous for boarding schools. At present there are two for boys; the one kept by Mr. Halsey, which I have visited and find to be flourishing; and the other by the Rev. Mr. Noble. And there are also two female boarding schools here. The one is kept by Miss Gorcham, and the other by Miss Crutenden.

I have been over this region before; and am therefore aware that the soil is argillaceous and of a redish cast. This color, the books tell us, is caused by the peroxide of iron. The soil of this district is probably the ruins of granite. Some has formed into argillaceous, graywacke and sandstone slate, which run into each other, though well characterized specimens of each of these minerals may be found here occasionally.

Bloomfield is a pleasant country town—Here are two factories for cloths both cotton and woolen; and here is also a handsome building for an institution of learning.

Caldwell I arrived at next.—Here I visited a flourishing boarding school, for boys that is kept by Mr. Calvin S. Crane. Thence to Parcipany. Here the clay slate disappears—and graywacke predominates; though many masses of granite and quartz are to be seen along the way—the soil is but little colored.

At Denville I took the Morris Canal tow-path and

proceeded to Rockaway, about two miles. Here is a fall in this canal; and, instead of locks, there is a rail-way along an incline plane, by means of which boats are drawn up and let down. I saw it in operation. Accidents have happened upon it, and it is spoken against.

This canal was chartered, with a capital of $2000,000 in the winter of 1824-5. The route for it was surveyed the following summer; and excavations commenced upon it in 1826. It was made passible last season; though much, it is said, is yet to be done upon it. It is about 90 miles long, including its windings. The capital of $2000,000 has been expended upon it, and some say $2000,000 more, for a part of which it is under mortgage.

From Rockaway I went to Mount-Hope, a rocky barren place. The stones along the way consist of granite, quartz, breccia, puddingstone and graywacke. This is the region of iron mines and forges. I advanced to Berkshire valley, cheered only by the sweet fragrance of the ferns, chiefly the *Dicksonia pilosiuscula* which grow among the rocks along the way.

Amidst these dreary mountains, I found one man making charcoal, which he said was worth four cents a bushel there, and ten at Newark. I now came upon a granite region, and passed through Sparta where there are several forges in full operation. Near the eastern boundary of the town of Newton, the granite disappeared, and clayslate and transition limestone were the only rocks to be seen. Much wheat is raised in this region, although it was injured some, and rye too, by the cold weather last winter.

Newton being the shiretown of Lupet county, you will naturally suppose it contains the buildings and institutions which are common to such a place.

Leaving Newton for Morristown, I came again upon a granite region. At Stanhope I crossed the Morris canal. This is the highest part of that passage; and consequently, it takes much of the water which the forges of this vicinity require. Here too, is a rail-way for drawing up and letting down boats, which, at all these places, is done by the force of the water in the canal.

About two miles from Stanhope, the road passes under the canal; but the water runs through the arch above like a shower.

I came to Suckasunny plains; and here I turned off about one mile to the north, to look at Dickerson's iron mines. The iron is found in a hill which consists of gneis. This gneis is broken into angular masses, generally rhomboidal and tabular, of various sizes, which are undergoing the process of decomposition. The iron of the mine becomes a peroxide and gives a red tinge to the soil. The ore is in veins and so compact as to require to be blown up. One man will get up three tons a day and often six or more. It is worth $3,50 a ton at the mines; and will yield from 20 to 50 per cent of iron. The iron is worth from 70 to $80 a ton at the rolling mills. At these mills of which there are several in this part of the state, it is rolled into flat, square and cylindric bars and thus rendered more valuable.

I killed a small snake, a Natrix, which is not found in the New England States. It is sooty black above, whitish below, and some of them are 3 inches long. They frequent the water.

Morristown is the shiretown of Morris county and contains perhaps 20,000 inhabitants.

The granite continues; but gradually diminishes as you advance south-east, and the soil becomes red and argillaceous. FRANKLIN.

Elizabethtown, June 5, 1832.

(To be continued.)

Irish Peasant.

Let us take another view of the inmate of the cabin, for he may be found of all tints. Observe the half-clad peasant, breasting the storm with wiry sinews, his ragged coat streaming in the wind, travelling to some neighbouring market with a load on his shoulders. This load is a web of linen cloth, for which, should he be fortunate enough, he may obtain from 6*d.* to 10*d.* a yard.

And this trifling sum is all that this man obtains for a yard of cloth, after having grown his own flax on land, for which he must pay from thirty to eighty shillings per acre; after the labour attending the pulling, watering, drying, crigging, dressing, spinning, weaving, and taking to market. Then, with the proceeds of the sale of this cloth, together with the sale of his corn, for these men generally rent three or four acres of ground, he contrives to pay his rent; while himself and family live, or rather drag out a miserable existence, entirely on potatoes; for his ducks and fowls, geese and turkeys, are all brought to market to enable him to purchase something to cover his nakedness with; nor will his utmost exertions enable him to procure better fare.—*Loudon.*

CURIOUS PEACH TREE.—We have lately examined a peach tree which was raised from the seed by Mr. A. Brown, of the town of Greece in this county, which is a great curiosity, as exhibiting variations from the common laws of vegetation. At the season when other trees put forth their blossoms, there may be seen upon this a great number of button shaped buds or projections, corresponding in situation to the blossoms on other trees, which, instead of expanding and showing petals or flower leaves, send out from thirty to forty small peaches. As these increase in size they make a singular appearance, and would leave us to conclude that not only the stamens and petals by some unaccountable process, had been changed into rudiments or fruit. It is not uncommon, among garden flowers, to see those monstrosities which we call double flowers, (as the double Peony) in which all the stamens have been converted into petals, from which circumstance such flowers do not produce seed; but we do not recollect to have seen an instance where stamens and petals both appeared to have been converted into capsules or fruit. Should any of our nurserymen have noticed the like sports of nature, we would be glad to hear from them.—*Genesee Farmer.*

VINES IN POTS.—Any one that is curious to have vines in pots full grown, should, at the time of pruning, take the stem through the hole in the bottom of the pot, and lay the rest of the vine from the bottom of the pot in the ground: they thus shoot much sooner. For such purposes, I take the old shoots that are to be cut out that season. For the pots I use the same compost as for the border. I always keep rotten dung about the pots, as it makes the vines strike much sooner than keeping the pots dry. I have had twenty-six good bunches in a pot, and could have had more but for thinning. When the fruit is at maturity, I cut the

old bunch by the bottom of the pot, and remove the plant at pleasure for ornament.

I have often taken notice that, in some sorts of vines, the foliage turns brown, just as if it had got a little frost. Such vines are generally on a clay soil, or on a bottom that does not let the roots push freely, so causing a stagnation on the sap.—*Caledonian Horticultural Society.*

Hop Tops.—The hop forms an excellent substitute for asparagus, and the tops may be had the whole year round. Hop tops also form an admirable ingredient for a variety of dishes, such as soups, omlets, &c. Long experience in the practice of cookery, both in this and in my native country, for upwards of forty years, makes me bold in recommending hop tops. I was for some time in the kitchen of the king of Sardinia, where the art was practised in all its branches. I was afterwards thirty-four years with the Hon. D. F. Halyburton as cook and house-steward. He being of delicate constitution, and eating no sort of animal food whatsoever, I was, on his account, obliged to study varieties of vegetable dishes. Hop tops formed one on which I by chance stumbled, and of which he very highly approved, finding it agreeable and very wholesome."—*Ib.*

Curl in Potatoes.—Keep the tubers intended for seed free from wet or damp, either in a house or in pits. "Generally, at the root end of the potato, or what some call the waxy end, almost close by the feeding string, there is an eye, which, cut by itself, mostly produces a curl, unless it has another eye in the cut or set; which other eye generally springs first, and stops the former from growing: except in the foresaid cut, I recommend only one eye. By attention to this, this season I could have shown a whole break, and scarcely a curl in the whole break: they were early potatoes, which are more given to curl than the late sorts."—*Ib*

Asparagus.—Take off the old surface between the rows, and substitute a new one of light rich soil. "I am convinced that top-dressing is as essential to asparagus, as the preparation of the ground for its reception either at the time of sowing or planting.—*Ib.*

Preserving Posts.—Those which were burned a little way above and below the ground stood well, particularly when tarred. This being the cheapest method, it will be more in use than the following, which, however, is the best way for preserving wood. It must first be painted with oil colour, and, after it is dry, a sheet of iron, about 16 in. long, must be put round it, so as to be as much in the ground as above it, and then the whole should be painted again.

Stakes or posts treated in this manner will remain perfectly sound for a long time.—*Ib.*

On Cleft-Grafting the Vine.—This has been practised with perfect success at the royal gardens at Potsdam. The grafting is done as near the ground as possible, and grafts are chosen to be equal in diameter to the stock, so that both sides of the bark of the graft and of that of the stock may fit exactly together. After being tied, the soil must be raised to cover the graft, and when the stock is too high this may easily be accomplished by a flower-pot filled with earth. By this way of engrafting, grapes were obtained the first year as large and plentiful as on any other vines. *Ib.*

On the Germination of Seeds.—M. Otto states that he uses oxalic acid to make old seeds germinate. The seeds are put into a bottle filled with oxalic acid, and remain there till the germination is observable, which generally takes place in from twenty-four to forty-eight hours, when the seeds are taken out, and sown in the usual manner. Another way is to wet a woollen cloth with oxalic acid, on which the seeds are put, and it is then folded up and kept in a stove; by this method small and hard seeds will germinate equally as well as in the bottle. Also very small seeds are sown in pots, and placed in a hot-bed; and oxalic acid, much diluted, is applied twice or thrice a day till they begin to grow. Particular care must be taken to remove the seeds out of the acid as soon as the least vegetation is observable.

M. Otto found that by this means seeds which were from 20 to 40 years old grew, while the same sort sown in the usual manner did not grow at all.—*Loudon.*

The Weevel.—Salt is said to be a complete preventive against the destruction of wheat by the weevil. Mix a pint of salt with a barrel of wheat, or put the grain in old salt barrels, and the weevil will not attack it. In stacking wheat, four or five quarts of salt to every hundred sheaves, sprinkled among them, will entirely secure them from the depredations of this insect, and render the straw more valuable as food for cattle.—*Hort. Reg.*

THE FARMER.

Thursday, June 28, 1832.

EDITORIAL CORRESPONDENCE.

LETTER XXVI.

Natural Scenery of Albany.—Loudon, in a recent number of his Magazine, advises the nobility and gentry of England to devote their rich and comparatively level parks, lawns, and flower gardens to the purposes of agriculture, and remove to the more varied and hilly parts of Scotland, where the same taste and much less expense would produce far greater effect in landscape gardening. Applying this remark to Albany, I shall be sustained in saying, that were it not for the rise of ground, the varied and broken surface, and the deep ravines within the limits of the city, it would be susceptible of much less improvements, and destitute of many of its present and prospective beautives. The streets adjacent to the river are sufficiently level for the all purposes of business. For about half a mile, the ascent is near one hundred and fifty feet. At this height the general feature of the surface is that of a champaign, but very considerably diversified by hill, dale, undulation, and ravine, affording a variety of aspect and sites for general culture and picturesque effect. The beauty of every display of art and rural taste is greatly heightened by a contrast with the sterile pine plains, in the immediate vicinity of the city and extending to Schenectady, a distance of 15 miles.

The members of the Horticultural Society of Albany have it in their power to confer a great and lasting benefit to their city—to beautify it, and to enhance the value of real estate. By devoting one premium of 50 to 500 dollars to be awarded in 1835, for the greatest improvements in ornamental and landscape gardening, a spirit would be excited, the beneficial effects of which would be observable and realized for centuries; and Albany instead of being "seldom thought pleasing" would become the admiration of the traveler.

In my next I will make some remarks on a few of the gardens in reference to ornamental effect.

Albany, June 8, 1832.

Gardeners' Work for July.—*Beans*—Dwarf Kidney beans may continue to be planted during this month by those who are desirous of a succession.

Beets and Carrots—If the previous plantings have failed, sowing early in this month will answer.

Cabbages—Early York, Early Dutch, and Dwarf or Sugar loaf may be sowed this month, and in September or October, transplanted into a warm situation. They will furnish greens the early part of winter.

Cucumbers for pickles should be planted this month.

Endive or Succory for general crop may be sowed this month as well as in June.

Peas—By soaking the seed several hours in water, they may be planted in this and the succeeding month.

Potatoes—If the gardener has any portion of ground unoccupied he may plant a few potatoes.

Radishes—The White Turnip and Black Spanish stand the heat well, and are, therefore the best for July sowing.

Turnips—A few of the Ruta Baga may be sowed in drills, the ground previously well prepared, and the turnips hoed after they are of a sufficient size. Other kinds should be sowed later.

Transplanting—Those plants that are transplanted this month should, when taken up, have their roots put in water rendered so muddy as to adhere to them.

Weeds—This is a favorable month for the diligent use of the hoe in killing weeds.

Herbs for winter use may be gathered when in flower—burnet, churvil, fennel, mint, parsley, sweet majoram, tarragon, thyme, savory, &c.

Bulbous Roots—About a month after the flowering is over, take up the bulbs, cut off the stem within an inch of the bulb, leaving the fibres of the roots uninjured. Dry them in an airy place for two or three weeks, then wrap them in paper, and cover them in perfectly dry sand.

Insects—Those who, last month, neglected to examine their fruit to detect the curculio, should not fail of attending to it in July. Those fruits that concontain the insect should be given to the hogs. Shaking the trees, and thus causing the curculio to fall off, and killing them, is the only effectual method of diminishing their numbers.

Saxony Sheep.—One of the greatest drawbacks on sheep husbandry, is the frequent losses by the death of lambs immediately after being dropped or soon after. It has been asserted that the introduction of Saxony sheep has, by crossing with our other breeds, weakened the constitutions of our sheep, in proportion as the Saxony blood becomes mixed with the Merino and common breeds. Is it a fact that a greater proportion of lambs die now than thirty years ago? Will "A Native of Saxony," or some other competent person, give us information on this subject?

The Season.—Reports from the different counties in the vicinity of New-York speak encouragingly of the husbandman's prospects. The recent warm weather has given a rapid growth to wheat, rye, and particularly to corn. The grass crop promises well.

New-York Vegetable Market, June 20.—Strawberries plentiful at 4 to 6 cts. per basket of little more than a half-pint; Peas 75 cts. per bushel; Gooseberries 10 to 25 cts. per qt.; Currants 5 cts. per qt.; Cabbage 38 cts. per dozen; Radishes and Lettuce, no demand, Potatoes 75 to $1 per bushel; Butter 19 cts.; Eggs 9 for 12 1-2 cts.

The market buildings have undergone a general cleaning on account of the cholera.

New-York Vegetable Market, June 27.—New Potatoes very fine 1,50 to $2 per bush.; Peas 37 1-2 cts. per bush.; Turnips 3 to 4 cts. per bunch of about 9; Gooseberries 9 to 19 cts. per quart, the largest sell for the best price; Strawberries 4 to 6 cts. per basket; Butter 16 to 19 cts.; Cherries plentiful 6 to 8 cts. per pound.

The markets generally are very dull. Lettuce, radishes and cabbages have no sale.

New-York Cattle Market, June 28.—The market has been plentifully supplied with stock this week, the sales were slow, and at lower prices. Of the 600 head of Beef cattle arrived this week, 100 remain unsold. The average of sales this week were at $1 per hundred, reduction from those of last week. We quote $5 50 a 7 50 per hundred.

Cows and Calves.—There is still a good supply of this kind of stock, and sales are dull, ranging from $18 to 30.

Sheep and Lambs.—From 1000 to 1500 have arrived, sales tolerably brisk, ranging, for sheep, from $2 to 4 50; Lambs, $1 75 to 3 50.

Swine.—What few arrive, sell alive at $4 a 4 50; dressed at $5 50 a 6 50.

NEW PUBLICATIONS.

The Sylva Americana;

Or a Description of the Forest Trees Indigenous to the United States, Practically and Botanically Considered. Illustrated by more than One Hunded Engravings.—By D. J. Browne. Boston; William Hyde & Co. 1832.

We, the inhabitants of the United States, feel proud of the natural features of our country—our rivers are numerous and majestic—our hills and mountains are varied and grand in range and height—our fossil resources inexhaustible, and intrinsically of the most valuable kinds—our soil productive of the comforts and luxuries of all climes—and our forests consist of the greatest variety of the loftiest, the most beautiful, and the most useful of sylvan productions. These natural features correspond with the extent of our territorial bounds, and the nobleness and excellence of our civil institutions. The hills, and the mountains, and the rivers are in the keeping of the Creator, having received the immutable stamp of nature; but the preservation of our forests, like that of our liberty, is obligatory on ourselves. By a provident care both will live for ever; but when once prostrated they will lie for ages. The venerable and grey-headed patriots among us, who appear to be intuitively prescient, point tremblingly and fearfully to the daring and reckless woodman and politician, sacrilegiously approaching the forests and the Constitution of the land.

Placing in such equal importance our liberty and our forests, may seem to some to be over-rating the one and undervaluing the other; but when it is recollected that we, as expressed by a Roman naturalist, '*arbore sulcamus maria, terrasque admovemus*; *arbore exædificamus*,' by the tree we navigate the ocean, cultivate the earth, and build our houses, it should not be considered an unpatriotic union. What would have been our commercial importance, and our naval standing among the nations of the earth, had it not been for our forests? Let any one reflect for a few moments on the innumerable uses to which the tree is devoted, and consider how intimately connected are our comforts and pleasures with, not only the bare existence of the tree among us, but with its abundance, and he will be deeply impressed with the great value and primary importance of our forests—he will see that the least scarcity or advance in price very materially affects every branch of trade and every department of domestic pursuits.

Mr. Browne, the author, is a young naturalist who is devoting his time to the study and investigation of objects of natural science. We approve his taste, and laud the service done to his country, in compiling the Sylva Americana. It is written in a popular style, and is calculated to do good among farmers. We would therefore recommend it as a suitable book to be given as premiums by agricultural and horticultural societies. It is got up in handsome style. The engravings on wood are numerous, and some of them well executed. Those representing the leaves are, as far as our recollection and opportunities of comparing enable us to judge, correct representations of the shape, and therefore answer all the practical purposes designed; but not being finished drawings, they do not correspond with the general style of the book, and hence make the work less valuable and desirable as an ornament to a library, and consequently not as good a substitute for more costly works. Still no person who has a taste for subjects of a rural nature, should fail in placing it among the books of his library however few or numerous they may be.

The work is divided into three parts, *Vegetable Physiology*, under which the functions of the organs of plants are interestingly treated; *Dendrology*, the history of trees, under which are given the drawings of the leaves and fruit or seed, description, uses, and localities of the trees; and *Arboriculture*, the cultivation and propagation of trees, under which much and valuable information is embodied.

In the physiological department of his book, the author, we think, speaks too positively on the subject of thorns. If the "conversion of thorns into branches" rests on the proof that thorny wild plants become smooth when cultivated, it is no proof at all. It only proves that the circumstances under which the plant exists are unfavorable to the developement of thorns. With nearly equal propriety could it be asserted that stamens are petals, because they are sometimes, by cultivation, converted into petals. If one method of cultivation decreases the thorns, another may increase them. The following are our author's words.

'Thorns are stunted branches; their imperfect form may be owing to the buds being partially evolved, from want of proper nutrition. Indeed, that it is, in a great degree, owing to such a cause, is proved by the conversion of thorns into branches on removal into richer soil. This fact is well known to gardeners, as many fruit trees, which are thorny when wild, become smooth when cultivated. Sometimes the foot-stalks of pinnate leaves that have fallen off become thorns, as is the case in the Astragalus tragacantha, or goat's thorn milk vetch.'

Equally unsatisfactory to our minds is his account of the tendrils. His language would seem to imply that their existence was incidental. In organology they and the buds are arranged under Conservative Appendages—the one as much an original and distinct provision of nature as the other. Our author observes that tendrils have the same structure as the flower and leaf or foot stalks, "and are in fact elongated foot stalks, without the leafy expansion, which adds to their length;

and being unable to support their own weight in a straight line, they assume the spiral form." The Encyclopædia of Gardening gives a more correct impression:—"The tendril is a thread shaped and generally spiral process issuing from the stem, branch, or petiole, and sometimes even from the expansion of the leaf itself, being a organ by which plants of weak and climbing stems attach themselves to other plants, or other substances for support; for which purpose it seems to be well fitted by nature, the tendril being much stronger than a branch of the same size.'

It was our intention to make extracts, but our remarks have extended so far that we must reserve them for a future occasion. We can confidently recommend the work to our friends as one, from which they will derive much pleasure and profit—one, to circulate which they will render a service to their country.

A Treatise

On Breeding, Rearing, and Fattening, all Kinds of Poultry, Cows, Swine, and other Domestic Animals, by B. Moubray, Esq. With Abridgements, and Additions. By Thomas G. Fessenden, Esq. 12 mo. pages 266. Boston; Lilly & Wait; and Carter & Hendee. 1832.

A work on subjects to which this is devoted, particularly on the smaller kinds of domestic animals, has long been a desideratum; and we are glad that an edition of Moubray's popular treatise has been brought out under the emendations of that veteran in American agriculture and domestic economy, T. G. Fessenden, Editor of the New England Farmer. We deem it unnecessary, after having given the title and the authors' names, to detain our readers with any disquisitions of our own, but proceed to make some extracts. We would, however, observe, after stating that the work is executed in a style to make a neat pretty volume, that it would have had still stronger claims to public favor and patronage, if it had embodied more statistical information on the profits of rearing poultry on a large scale, or as a principal pursuit of a farmer. In another edition, which, we have no doubt, will be called for, we hope Mr. F. will supply sufficient data to encourage and justify farmers in devoting more attention to this almost neglected source of income and wealth. The following extract will show the different customs prevaling in Great Britain and France.

'In Britain, where a greater quantity of butcher's-meat is consumed than probably in any other part of the world, poultry has ever been deemed a luxury, and consequently not reared in such considerable quantities as in France, Egypt, and some other countries, where it is used more as a necessary article of food, than as delicacy for the sick, or a luxury for the table. In France, poultry forms an important part of the live stock of the farmer, and it has been said of that country, the poultry yards supply a much greater quantity of food to the gentleman, the wealthy tradesman, and the substantial farmer, than the shambles do; and it is well known, that in Egypt it has been from time immemorial, a considerable branch of rural economy, to raise domestic poultry for sale, hatched in ovens by artificial heat. The warmer climates are far more favorable than ours for the purpose of raising poultry, and the same rule necessarily holds with respect to this country, where the warmest and dryest soils are best adapted to this production, more especially of the chicken and the turkey.

'Mr. Wakefield, a spirited farmer near Liverpool, say the Compilers of 'The Complete Grazier,' keeps a large stock of poultry in the same inclosure, with singular success. He has nearly an acre inclosed with a close slab fence, about seven feet high: the top of the fence every where sharp pointed like pickets; though, perhaps, this is not necessary. Within this inclosure are put up small sheds, well secured from rain, however for different kinds of poultry, and it is supplied with a small stream of water. The poultry are regularly fed three times a day with boiled potatoes, which is their only food, except what grass may grow within the inclosure.

'The dung of the poultry, which is exceedingly fertilizing, is carefully saved for use, and the turf of the inclosure is occasionally pared off for mixing with composts.

'It would seem that, in the vicinity of large towns particularly, keeping poultry in this style might be made a profitable employment.'

A few years ago, upwards of twelve tons of turkies and poultry were, within ten days, imported from France into Great Britain. We give some extracts on the qualities of the flesh of poultry.

'In the opinion of physicians, both ancient and modern, the flesh of the chicken at three months old, is the most delicate and easy to digest of all other animal food: thence best adapted to the stomachs of invalids, or the constitutionally weak, being the least alkalescent of all animal food, free from irritation, and affording a mild and innoxious chyle. Age makes a striking difference in the flesh of fowls, since, after the age of twelve months, it becomes tougher and more insoluble. The cock, indeed, at that age, is only used for making soup, whilst the pullet is still excellent, although a more substantial viand than the chicken. Whilst young, the cock and hen are equally delicate.

'The *Capon*, or castrated cock, has ever been esteemed one of the greatest delicacies, preserving the flavor and tenderness of the chicken, with the juicy maturity of age, the flesh yielding a rich and good chyle, and without any tendency to inflammation.

'The flesh of the *Turkey*, is somewhat more dense of fibre, and more alkalescent and substantial than that of the chicken, but it is reckoned nourishing and restorative.

'*Guinea fowls* are not so white of flesh as common, but more inclined to the pheasant color; in quality, short and savoury, like the flesh of the pheasant, and easy of digestion. In fact, the guinea fowl is reckon- by many a good substitute for the pheasant. They are very prolific, and their eggs nourishing and good.

'The *Peacock* has long ceased to form a common dish for the table in this country, and probably, from its coarseness and ill colour, when it did, the motive

was rather show than use; but pea-hens and pea-chicks still retain their place at fashionable tables.

'The *Bustard* is the largest land bird of Europe, the cock generally weighing from twenty-five to twenty-seven pounds. The neck a foot long, the legs a foot and a half. It flies with some little difficulty.—The head and neck of the cock ash coloured; the back barred transversely with black and a bright rust colour. The greater quill feathers black, the belly white; the tail, consisting of twenty feathers, marked with broad black bars: it has three thick toes before and none behind. There are upwards of half a dozen species of this bird, two or three of which (African) are crested. The *little* Bustard, differs only in size, not being larger than a pheasant. They were known to the ancients in Africa, and in Greece and Syria; are supposed to live about fifteen years; are gregarious, and pair in spring, laying only two eggs, nearly of the size of a goose-egg, of a pale olive brown, marked with spots of a darker hue. They sit about five weeks, and the young ones run, like partridges, as soon as delivered from the shell. The cocks will fight until one is killed or falls. Their flesh has ever been held most delicious, and I suppose they are fed upon the same food as the turkey.

'Perhaps it might be conferring a benefit to the United States, if some enterprising patriot would import a few pairs of this bird. Our author asserts in another place: 'To those who aim at variety and novelty in this line, the Bustard appears peculiarly an object for propagation and increase; since the flesh is of unrivalled excellence, and it is probable this fowl will render great weight of flesh for the food consumed.'

'The flesh of the *Duck* of a savory and somewhat stimulant nature, is said to afford a preferable nourishment to that of the goose, being not so gross, and more easily digested: and that of the wild duck is reckoned still more easy of digestion than the tame, although more savoury.

'The whole asserine or *Goose* tribe, of which there is a great variety, are held to afford a food stimulant, of a strong flavour and viscous quality, and of a putrescent tendency. The flesh of the tame goose is more tender than that of the wild, but generally it is a diet best adapted to good stomachs and powerful digestion, and should be sparingly used by the sedentary and weak, or by persons subject to cutaneous diseases.'

Some of our readers who are fanciful in these matters, may be pleased with the two succeeding paragraphs.

'There has been lately obtained a variety of Bantams, extremely small, and as smooth legged as a game fowl. From their size and delicacy they are very convenient as they may always be used as substitutes for chickens, when small ones are not otherwise to be had. They are also particularly useful for sitting upon the eggs of partridges and pheasants, being good nurses as well as good layers.

'There is a South American variety, which will roost in trees. They are very beautiful, spotted like a partridge and streaked; the eggs small and colored, like those of pheasants; both the flesh and eggs are fine flavoured and delicate.'

The advice given respecting solid food and pure water, we deem of much importance.

'Instead of giving ordinary and *tail-corn* to my fattening and breeding poultry, I have always found it most advantageous to allow the heaviest and best, putting the confined fowls upon a level with those fed at the barn-door, where they have their share of the weightiest and finest corn. This high-feeding shows itself not only in the size and flesh of the fowls, but in the size, weight, and substantial goodness of their eggs, which in those valuable particulars will prove far superior to the eggs of fowls fed upon ordinary corn or washy potatoes; two eggs of the former going farther in domestic use, than three of the latter. The water also given to fatten fowls should be often renewed, fresh and clean; indeed, those which have been well kept, will turn with disgust from ordinary food and foul water.'

The book contains many useful suggestions and directions. We give a few detached sentences, which we marked with a pencil, in looking over the pages. It should be a general rule to breed from *young stock*.—The health of fowls is observable in the fresh and florid color of the comb, and the brightness and dryness of the eyes, the nostrils being free from any discharge, and the plumage of a healthy gloss. The number of hens to one cock should be from four to six. Old hens are not to be depended on for eggs in winter. Delicate white hens do not lay as many eggs in the cold season as the more hardy colored varieties. Feeding frequent sitters in the nest is recommended. Nearly all the diseases of gallinaceous fowls arise from cold moisture. Cobbett says, the French, who are great egg-eaters, take much pains as to the food of laying-hens, in winter. They let them out very little, even in their fine climate, and give them very stimulating food; barley boiled and given them warm; curds; buckwheat; parsley, other herbs and leaks chopped fine; oats and wheat sifted; and sometimes hempseed, and the seed of nettles; or dried nettles harvested in summer, and boiled in winter; ordinary food, and once a day, toasted bread dipped in wine. White cabbages, chopped up, are very good for all sorts of poultry. Rice moderately boiled with a little brown sugar, fattens fowls speedily, and makes their flesh remarkably white and delicate. Oats, whole or bruised, are the standard for fattening ducks and geese. Caution should be taken in exposing geese to rain, cold, and burning sun, immediately after having their feathers picked. The great goose-feeders of London feed their stock with the purest and best food. Few greens should be given to fattening geese—they make them too laxative. It is stated, that, 'if *well kept*, a goose will lay a hundred eggs in a year.'

AGRICULTURE.

Irrigation.

We do not recollect of having seen any statistical information on the losses which farmers sustain from those seasons, when their fields produce less crops than

their existing fertility would yield with a sufficiency of rains. The want of these statistical calculations derived from a series of years of observation—the want, too, of having them generally circulated and carried to every farmer's door, has undoubtedly been the cause of the apathy on the subject of irrigation. Every owner of a farm, when he wishes to buy or sell, places a high estimate on a never-failing spring or brook; but this estimation is more frequently made from an idea of convenience as a watering place for cattle, rather than as a grand fertilizer of the farm. In looking back to the days of our boyhood, and recalling the seasons when the hopes and comforts of farmers have been cut off and reduced, it would seem that scarcely a summer had passed, in which there was not much labor lost, much disappointment experienced, and a consequent reduction of pleasure and income, by droughts. And what has added considerably to the discouragement and mortification, has been the fact, that the crops have been brought forward most promisingly, by alternate sun and showers, until the very time of fructification, or maturation had arrived, when for the want of a little moisture the crop, when gathered, is found to be, perhaps one half less than it would have been. It often happens, that in a few days after a crop has received material injury, the most genial rains come, and continue for the remainder of the season, making it evident that a little timely irrigation would have enabled the farmer to smile in beholding a full, well ripened, heavy crop.

There is very much need of some mechanical contrivance or invention to raise and convey water.—Since the ingenuity of our countrymen have supplied us with horse rakes and threshing machines, we could wish it might be turned to the construction of irrigating apparatus.

The following is from the transactions of the Essex Agricultural Society, by Dr. Spofford:

Several years ago, when resident with my father on his farm at Rowley, I labored hard to divert a stream, which fell into a miry swamp, from its usual course across a piece of dry upland. The stream was pure spring water, which issued between the hills about fifty rods above, running but just far enough to acquire the temperature of the atmosphere, but without receiving any more fertilizing quality than was obtained in passing through a pasture, in a rocky channel; the effect, however, was to double the quantity of grass. The stream I again diverted from its course about forty rods below, after it had filtered through a piece of swamp or meadow ground, and with the same effect; and again still lower down its course, I succeeded in turning it on a piece of high peat meadow, which had usually produced but very little of any thing, and the effect was that more than double of the quantity of grass was produced, and that of a much better quality. I was led to this latter experiment, by observing that a strip of meadow, which naturally received the water of this run, and over which it spread for several rods in width without any particular channel, was annually much more productive than any other part of the meadow.

But the best experiment, and on the largest scale of any which I have known, was made by my late father-in-law, Dea. Eleazer Spofford, then resident at Jaffrey, N. H. A letter from Rev. Luke A. Spofford, in answer to my inquiry on this subject, observes: 'My father commenced the experiment as early as the year 1800, and continued it till 1820, or to the time when he sold his farm. The last ten years of this time he flowed perhaps twenty acres; and it produced I should think twice as much in common seasons, and three times as much in dry seasons, as it would have done without watering. This land would hold out to yield a good crop twice as long as other land of the same quality'—(that is, I presume, without flowing.) In dry weather he watered it every night—and the produce was good, *very good*.'

I am acquainted with the lot of land which was the subject of this experiment. It is a northern declivity, and rather a light and sandy soil, on the eastern bank of Contookook river; and the water used was that of the river—about one mile below its formation by the junction of two streams, one from a large pond of several hundred acres in Rindge, and the other a mountain stream, formed by innumerable springs issuing from the skirts of the Monadnock.

Salt Used as Manure.

Mr. Smith—Having long considered salt as one of the cheapest and best manures we could apply to our lands, and having a small lot of very light sandy land, I determined to apply it in conjunction with clay and a small quantity of lime, which I concluded to add only because it was convenient to the spot to be manured. I dug from a pit two hundred bushels of good red clay, and to a layer of twenty bushels I scattered not quite a peck of ground alum salt and one bushel of oyster shell lime unslacked; going on until the whole of the clay was used. To the two hundred bushels of clay there were ten of lime and two of salt. The heap remained in that situation until late in April, when I measured an acre of land carefully, which had been ploughed the preceding winter; on this the mixture was neatly and carefully scattered; on the adjoining acre I scattered two hundred and twenty bushels of the clay, without the salt or lime; on the next I scattered ten bushels of lime; and on the fourth I sowed two bushels of ground alum salt. The land was then laid off in rows four feet each way and planted in corn which was thinned to one stalk, and all received the same cultivation. In October the corn from the first acre was gathered, and measured thirty-one bushels and one peck. On the second there were fifteen bushels and a half; about the quantity the land would have been capable of producing without the addition of lime or other manure. On the third twenty-one bushels and a half-peck. And on the last, with salt alone, twenty-four bushels and a half-peck, making a large difference in favor of the mixture. If the result of this experiment is worth insertion in your useful paper, it perhaps may be of use to the owners of the sandy soils in the lower part of Virginia.—Sandy Lane, *Richmond, Va. June* 1st, 1832.—*American Farmer.*

TO THE EDITOR OF THE NEW-YORK FARMER.

Radishes.

SIR,—Few vegetables afford a better article of diet than good radishes. Much depends on seed. I have generally found the English seed, or that raised about New York, to succeed best with me. These should be sown about an inch deep, and covered in the early part of the season with a mixture of sand and dung. This sand keeps away the little worms that spoil most of our early crops, especially when in a clay soil, and the dung hastens their growth; and the excellence of a radish depends very much on the quickness of its growth. The seed should be sown weekly to insure a succession. After the first of August the worm is nearly extinct, and the sand is no longer necessary. Yours, &c. R. M. W.

Middlesex, June 30, 1832.

Silk Grass.

Last summer, as a matter of curiosity, I cut a few leaves of what is vulgarly called here the silk grass, (I do not know the botanic name, but it is a species of agave, without thorns,) and to my surprise gave me fibres after water rotting, resembling those of which the South American grass twine is made. I have never seen any notice taken of it in this country.—Dossie in his Memoirs of Agriculture, (London, 1769,) says of it, that "The fibres are very long, and, when manufactured make thread, which has the glossiness of silk; but in strength far exceeds that, or any filamentous substance whatever." He also states it to be the grass of which Indian hammocks are made. I have some idea of cultivating it with a view to the making of some experiments with it, and as it is now in flower I hope to save plenty of seed. Yours, respectfully, ROBERT CHISOLM.—*Amer. Farmer.*

Classification of Soils.

We have frequently had inquiries for information on the kinds of soil adapted to the culture of the different kinds of vegetation. A wonder has been expressed that so little is said on the subject by the correspondents of agricultural papers. One reason undoubtedly is, that a nomenclature has not been adopted. If farmers and gardeners will attentively read the following article, taken from the "Sylva Americana," and universally adopt it in describing the culture of plants, much progress would be made in our rural pursuits. It would tend to make writers more particular in their observations, and more accurate reasoners.

"Systematic order and an agreed nomenclature are as necessary in the study of soils as of plants or animals. The number of provincial terms for soils which have found their way into the books on cultivation, is one reason why so little use can be made of their directions. A correct classification of soils may be founded on the presence or absence of organic or inorganic matter in their basis. This will form two grand classes, viz: *primitive soils*, or those composed entirely of organic matter, and *secondary soils*, or those composed of organic or inorganic matter in mixtures. These classes may be subdivided into orders founded on the presence or absence of saline, metallic and carbonic matter. The orders may be subdivided into genera founded on the prevailing earths, salts, metals, or carbon; the genera into species founded on their different mixtures; the species into varieties founded on color, texture; and sub-varieties founded on moisture, dryness, richness, lightness, etc.

In naming the genera of soils, the first thing is to discover the prevailing earth or earths; either the simple earths as clay, lime, sand, or the particular rocks from which the soil has been produced, a granite, basalt, etc. When one earth prevails, the generic name should be taken from that earth, or clayey soil, calcareous soil, etc.; when two prevail to all appearance equally, then their names must be conjoined in naming the genus, as clay and sand lime and clay, basalt and sand, etc. The great thing is precision in applying the terms. Thus, as Sir H. Davy has observed, the term sandy soil should never be applied to any soil that does not contain seven-eighths of sand; sandy soils that effervesce with acids should be distinguished by the name of calcareous sandy soils, to distinguish them from those that are siliceous. The term clayey soil should not be applied to any land which contains less than one-sixth of impalpable earthy matter, as without considerably effervescing with acids; the word *loam* should be limited to soils, containing at least one third of impalpable earthy matter, copiously effervescing with acids. A soil to be considered as peaty, ought to contain at least one half of vegetable matter. In cases where the earthy part of a soil evidently consists of the decomposed matter of one particular rock, a name derived from the rock may with propriety be applied to it. Thus, if a fine red earth be found immediately above decomposing basalt, it may be denominated basaltic soil. If fragments of quartz and mica be found abundant in the materials of the soil, which is often the case, it may be denominated granitic soil; and the same principles may be applied to other like instances. In general, the soils, the materials of which are the most various and heterogeneous, are those called alluvial, or which have been formed from the depositions of rivers; and these deposits may be designated as siliceous, calcareous, or argillaceous; and in some cases the term *saline* may be added as a specific distinction, applicable, for example, at the mouth of rivers, where their alluvial remains are overflown by the sea.

The following table enumerates the more common genera, species and varieties of soil. The application of the terms will be understood by every cultivator, though to attempt to describe the soils either chemically or empirically, (as by sight, smell, or touch,) would be a useless waste of time. From very little experience in the field or garden, more may be gained in the study of soils, than from a volume of such descriptions. This table corresponds with the nomenclature adopted in the agricultural establishments of Fellenberg at Hofwyl in Switzerland, of Professor Thaer at Moegelin in Prussia, of Professor Thouin in his lectures at Paris, and in general with that of all the European professors. It is therefore very desirable that it should become as generally adopted as that of the Linnæan system in botany. The principle of the table may be extended so as to contain any other soil whatever

Order.	Genus.	Species.	Variety.	Sub-Variety.
PRIMITIVE SOILS.	Earths alone	Clay	Entire	Black	Moist.
					Dry.
					Rich.
					Poor.
					Sterile.
				Red	Moist, dry, &c.
				Yellow	Moist, dry, &c.
				Coarse	Moist, dry, &c.
				Fine	Moist, dry, &c.
		Lime	Entire	Black, red, yellow, coarse, fine, &c.	Moist, dry, rich, &c.
		Sand	Entire	Black, red, yellow, coarse, fine, &c.	Moist, dry, &c.
	Earths and salts or metals.	Clay	Ferrugineous	Black, red, yellow, coarse, fine, &c.	Moist, dry, &c.
			Cupreous	Black, red, &c.	Moist, dry, &c.
			Saline	Black, red, &c.	Moist, dry, &c.
		Lime	Ferrugineous	Black, red	Moist, dry, &c.
			Cupreous	Black, red	Moist, dry, &c.
			Saline	Black, red, yellow, coarse, fine, &c.	Moist, dry, rich, &c.
		Sand	Ferrugineous	Black, red, yellow, coarse, fine, &c.	Moist, dry, rich, &c.
			Cupreous	Black	Moist.
			Saline	Black	Moist, dry, &c.
SECONDARY SOILS.	Earths and organic remains alone	Clay	Loamy	Black, red, yellow, &c.	Moist, dry, &c.
			Peaty	Black, red, yellow, &c.	Moist.
			Mouldy	Black	Moist.
			Limy	Black	Moist.
			Sandy	Black	Moist.
		Lime	Clayey	Black, red, yellow, &c.	Moist, dry.
			Loamy	Black	Moist.
			Sandy	Black	Moist.
			Peaty	Black	Moist.
			Mouldy	Black	Moist.
		Sand	Clayey	Black	Moist.
			Loamy	Black	Moist.
			Limy	Black	Moist.
			Peaty	Black	Moist.
			Mouldy	Black	Moist.
	Earths with organic remains, metals, salts & rocks.	Clay	Ferrugineous, loamy, &c.	Black	Moist.
			Ferrugineous, limy, &c.	Black	Moist.
			Ferrugineous, sandy, &c.	Black	Moist.
			Ferrugineous, peaty, &c.	Black	Moist.
			Ferrugineous, mouldy, &c.	Black	Moist.
			Cupreous, loamy, &c.	Black	Moist.
			Saline, loamy, &c.	Black	Moist.
			Cinereous, loamy, &c.	Black	Moist.
		Lime	Ferrugineous, loamy, &c.	Black	Moist.
			Ferrugineous, sandy, &c.	Black	Moist.
			Cupreous, loamy, &c.	Black	Moist.
			Cupreous, sandy, &c.	Black	Moist.
			Saline, loamy, &c.	Black	Moist.
			Saline, sandy, &c.	Black	Moist.
			Cinereous, loamy, &c.	Black	Moist.
			Cinereous, limy, &c.	Black	Moist.
		Sand	Ferrugineous, loamy, &c.	Black	Moist.
			Ferrugineous, limy, &c.	Black	Moist.
			Cupreous, loamy, &c.	Black	Moist.
			Cupreous, limy, &c.	Black	Moist.
			Saline, loamy, &c.	Black	Moist.
			Saline, limy, &c.	Black	Moist.
			Cinereous, loamy, &c.	Black	Moist.
			Cinereous, limy, &c.	Black	Moist.
		Granite	Ferrugineous, &c.	Black, red, yellow, &c.	Moist, dry, &c.
			Quartzose, &c.	Black	Moist.
		Basalt	Ferrugineous, &c.	Black, red, yellow, &c.	Moist, dry, &c.
			Columnar, &c.	Black	Moist.
			Whin stone, &c.	Black	Moist.
		Scisth	Ferrugineous, &c.	Black, Red, yellow, &c.	Moist, &c.
			Micaceous, &c.	Black	Moist.
			Chlorite, &c.	Black	Moist.
		Sand stone	Ferrugineous, &c.	Black, &c.	Moist, &c.
			Calcareous, &c.	Black	Moist.
			Argillaceous, &c.	Black	Moist.
			Cupreous, &c.	Black	Moist.
		Lime stone	Chalky, &c.	Black, red, &c.	Moist, dry, &c.
			Marble, &c.	Black	Moist.
			Shelly, &c.	Black	Moist.
			Magnesian, &c.	Black	Moist.
			Sulphuric, &c.	Black	Moist.
			Ferrugineous, &c.	Black	Moist.
			Cupreous, &c.	Black	Moist.
			Argillaceous, &c.	Black	Moist.
			Siliceous, &c.	Black	Moist.
		Coal	Slaty, &c.	Black, red, yellow, &c.	Moist, dry, rich, &c.
			Pyritic, &c.	Black	Moist.
			Stony, &c.	Black	Moist.
			Woody, &c.	Black	Moist.

HORTICULTURE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Turnips.

Sir,—It is not my design to enter upon the cultivation of the turnip, in the large way, but merely to give my experience of it, as a useful garden vegetable. If good turnip seed be sown, between the middle of September and the first of October, they will grow to about the size of a large musket ball before winter sets in; will sprout very early in the spring, and afford a plentiful supply of greens, better, I think, than any spinage, and much earlier. They should be used tops and bottoms; may be sown pretty thick, and the land may be used for any summer crop afterwards. Such is my experience and observation on the subject of raising turnips. R. M. W.

Middlesex, July 2, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Ploughing and Hoeing.

The utility of frequently ploughing and hoeing has been long known to practical Agriculturists and Gardeners. Ground often stirred with the plough or hoe in a drought will suffer far less than that not moved.

The reason of this effect I apprehend is not generally understood. It is some times said, that the destruction of the grass and weeds leaves more moisture for the corn or other vegetables. This, no doubt, is true—but it is not the sole or chief cause of the advantage of moving the ground in dry weather. Let any one turn up the soil in his field or garden in a drought succeeding wet weather, and he will see innumerable holes or channels leading from the surface deep into the earth. These channels are made by worms descending into the ground in search of moisture or for some other purpose. Through these holes the moisture is drained from the surface and leaves the plants to perish. When the ground is frequently stirred the continuity of these drains is broken and the moisture remains longer to nurish the plants.

C.

Cultivation of Sheraz Tobacco

In the Persian Provinces of Fars.

The following article was communicated by Dr. Riach to Sir Henry Willock, and by Sir Henry transmitted to the New-York Horticultural Society. [See page 244.]

In December, (which is about the middle of winter here) the seed is sown in a dark soil which has been slightly manured (red clayed soil does not do) to protect the seed and to keep it warm, the ground is covered with light thorny bushes, which are removed when the plants are three or four inches high, and during this period the plants are watered every four or five days—only, however, in the event of sufficient rain to keep the soil well moistened, not falling. The ground must be kept wet until the plants are 6 or 8 inches high when they are transplanted into a well moistened soil which has been made into trenches for them; the plant being put on the tops of the ridges 10 or 12 inches apart, while the trenched plots are made so as to retain the water given. The day they are transplanted water must be given to them, and also every five or six days subsequently, unless rain enough falls to render this unnecessary. When the plants have become 2 1-2 to 3 1-3 feet high, the leaves will be from 3 to 15 inches long. At this period, or when the flowers are forming, all the flower capsules are pinched or twisted off; after this operation and watering being continued (and irrigation is the system universally employed throughout) the leaves increase in size and thickness until the month of August or September, when each plant is cut off close to the root, and again stuck firmly into the ground. At this season of the year heavy dews fall during the night; when exposed to these the color of the leaves changes from green to the desired yellow. During this stage, of course no water is given to the soil. When the leaves are sufficiently yellow, the plants are taken from the earth early in the morning, and while they are yet wet from the dew, are heaped on each other in a high Kupper house, (a shed, the walls of which are made with light thorny bushes or such like) where they are freely exposed to the wind. While there, and generally in four or five days, those leaves which are still green, become of the desired pale yellow colour. The stalks and centre stem of each leaf are now removed and thrown away—the leaves are heaped together in the drying house for three or four days more, when they are in a fit state for packing. For this operation the leaves are carefully spread on each other and formed into sorts of cakes the circumference four to five feet, perhaps, of the bag, and 3 to 4 inches thick, great care being taken not to break or injure the leaves.

Bags made of strong cloth, but thin and very open at the sides are filled with these cakes and pressed very strongly down on each other—the leaves would be broken if this were not attended to. When the bags are filled they are placed separately in a drying house, and turned daily until they are transported, when a second bag like the first is sometimes put on. If the leaves be so dry that there would be a risk of their breaking during the operation of packing, a very slight sprinkling of water is given to them, to enable them to withstand it without injury. The leaf is valued for being thick, tough, and of a uniform light yellow color, and of an agreeable aromatic smell.

In the vicinity of Sheraz, November and December are cool; January and February more so; these may be considered the winter months. In December and January snow falls not unfrequently; the hills are covered with it some months, but it seldom lies any considerable time on the plains. March and April may be considered the spring, (though then the sun during several hours of the day is extremely powerful) and the remaining months till November again, are the very hot summer and warm autumn of these parts.

The crops of wheat are generally cut down in July, or even as late as August.

Sheraz, April 7, 1831.

Dr. Riach to Sir Henry Willock.

TO THE EDITOR OF THE NEW-YORK FARMER.

Sir,—Allow me to recommend for insertion in your truly useful repository, the following selections from the London Horticultural Register, which an English friend has loaned me. Flora.

Newburgh, July 4, 1832.

Weeds, Seeds, and Crocus.

Destruction of Weeds in Paths.—The following method of destroying them is adopted at the mint at Paris, with good effect; 100 llb, (or 10 gallons) of water, 20 llb quick lime, and 2 llb flour of sulphur are to be boiled in an iron vessel; the liquor is to be allowed to settle, the clear part drawn off, and being more or less diluted, according to circumstances, is to be used for watering the alleys and pavements. The weeds will not reappear for several years.—*Morning Herald.*

This is, doubtless, a good desideratum to the garden, but it is evident that it requires great care in the application, for if it will destroy the weeds it will also destroy the box or other edging.

Preservation of Seed.—The late M. Zea, the Peruvian Botanist, asserted, that the most delicate seeds of American plants may be sent to Europe in the highest preservation, by being enveloped in that kind of raw brown sugar which always retains its humidity. When the seeds are to be sown it is only requisite to immerse them in luke-warm water, which will take off the sugar.

The Crocus —There is a curious phenomena exhibited in flowers, by the expansion and contraction of their parts of fructifaction, yielding protection from wind and rain and the dews of the night. The Crocus is constantly influenced by atmospheric changes, and may also be acted upon in a similar manner by artificial means. The following results, among others, arose out of experiments to which the yellow Crocus was submitted in the spring of last year. The flowers having been gathered at night, when their corrollas were perfectly closed, were placed at the distance of nearly a yard from two lighted candles, and in a temperature of 50 degrees of Fahrenheit's thermometer; in this situation and warmth they remained two hours, but their petals nearly closed. Other flowers were gathered at the same time, and, being entirely excluded from light, were submitted to a warmth of 95 degrees, temperature being gradually raised from 65. Their continuance during two hours in this situation, occasioned but very little change in them. Others were also gathered and placed between two lighted candles, at about four inches from each, and in a temperature from 70 to 75 degrees.—These flowers, in rather less than an hour, were as fully expanded as in the mid-day sun.

Notices of Large Trees,

In the United States and in Canada.

The great elm of Boston Common is 22 ft. in circumference. The Charter oak, in Hartford, Connecticut, 22 ft. An elm at Northampton, Massachusetts, is 21; another 22 ft.; and a third is 28 ft. in circumference. An elm at Springfield, Mass., is 22½ ft. and one 25½ ft. in circumference. A white pine [Pìnus Strôbus] on the Katskill Mountains, New-York, is 247 ft. long. Dr. Dwight's *Travels*, vol. iv. p. 21.—On the Unadilla, Dr. Dwight mentions pine trees 3 ft. in diameter, and 200 ft. high by estimation, p. 26. A batton-wood (Plátanus occidentàlis), in Jefferson, Cayuga County, New-York, on the Montezuma estate, is 47½ ft. in circumference; the diameter of the hollow upwards of 15 ft., 2 ft. above the ground.—(*Med. Rep. New-York*, vol. iv. p. 427.)* A live oak at Dr. Rhode's, Beaufort, South Carolina, has a stem 32 ft. 5 in. in circumference; distance to a branch, 14 ft.: it is nearly of the same thickness the whole length of the tree.

An elm at Johnstown, near Providence, Rhode Island, at 2 ft. from the ground, is 24 ft. in circumference; at 4 ft., 21 ft.: it has eight main branches. In Aurelius, New-York, there is another elm 33 ft. in circumference. At Raleigh, North Carolina, there is an oak which, sixty years ago, was so small, that the owner bent it down, and cut off the top: in 1817, at the ground, it measured 25 ft. in girth, but as high as trees are usually cut, 15 ft. At noon, the tree covers with its shade a circumferance of 333 ft.

A weeping elm (U. americâna), before the door of Thaddeus Burr, Fairfield, Connecticut, a few years since, was 24 ft. round, at 1 ft. from the ground. A man, alive in 1807 (then 97 years old) planted it.

On the plantation of Mr. Adams, on the river Schuylkill, is a button-wood tree, 27 ft. in circumference.

Michaux mentions that "36 miles from Marietta, in Ohio, on the right-hand bank of the river, he measured a button-wood, at 4 ft. from the surface, and found it 47 ft. in circumference. It appeared to preserve the same dimensions to the height of 15 or 20 ft.; and it then divided into many limbs of proportional size." His host offered to show him others, equally large, two or three miles off. He quotes his father's journal, for another button-wood, which he saw in an island in the Ohio, fifteen miles above the mouth of the Mushingum, which, at 5 ft. from the ground, when the bark was smooth, measured 40 ft. 4 in. in girth. (*Journal*, p. 92. Paris, 18.) In his *Memoir on the Naturalisation in France of the American Fruit Trees*, Paris, 1805, he gives a large table of the heights of various trees in North America.

In the first volume of the *Memoirs of the Philadelphia Society for promoting Agriculture* is a paper, by the late John Pearson, Esq. Senator of the Pennsylvania Legislature, on the dimensions of numerous American trees, principally taken by himself. This work is in the library of the British Board of Agriculture, and of the London Horticultural Society.

Philadelphia, Sept. 20, 1829. J. M

A paper published in Gore, Upper Canada, mentions a pine tree now [1829] growing in that vicinity, which about a yard from the ground, measures 20½ ft. in circumference, and appears to be but little less at the height of 60 or 70 ft. Its whole height is estimated at 200 ft. It is known by the name of the "Johnny Martin Pine," from the circumstance of a Scotchman of that name, who once lived near it, always stopping for a considerable time as he passed that way, and viewing it with mute astonishment.

Loudon.

* Certified by eleven citizens.

Botanical and English Names.

Mr. Editor—In the Genesee Farmer of the 9th of June, I observed some remarks on the subject of hard names by "An Observer of passing events." An agricultural Journal I think above all others should be intelligible to every man who can read the English language, and nothing should be admitted in such a Journal but what is the result of experience, observation, or the strictest investigation. It may be necessary occasionally to use the botanical name, to point on

the particular plant intended, as when we say *stramonium* to indicate the plant known by the various names of Jamestown Weed, Simon Pumpkin, Stink Weed, and various other appellations by which it is known in various places, but generally it should be explained to the comprehension of every reader, whether unlearned or otherwise. Every man is interested in understanding. When we say *Acer nigrum* it is easy to write after it *black maple*, in which case almost every reader would comprehend the writer's meaning, and in proportion as such a Journal is intelligible to all, and gives the truth, the whole truth and nothing but the truth, it may be eminently useful or otherwise. Such are my ideas of hard names.

Yours, &c. R. M. Williams.

Yates County, June 17th, 1832.

State of Gardening in England.

The following remarks are from the last number of Loudon's Gardener's Magazine. The readers of the New-York Farmer cannot but admire the judicious advice given to those who emigrate to this country.

In the introduction to the preceding portion of our tour, we strongly recommended to young gardeners to prepare themselves for filling the situation, not only of a head gardener, but also that of a general manager on a gentleman's estate. We see every day more and more occasion for giving this advice; and we are happy to find it followed up by two very intelligent correspondents in the present Number (p. 134, and p. 137.) Mere gardening, whether as a commercial pursuit by nurserymen and florists, or as a personal and professional service, never was, at any time within our recollection, at so low an ebb as it is at present. Nurserymen are becoming bankrupts all over the country, and there can be no doubt that many of them, whose names are not gazetted, have been obliged to compound with their creditors. So many master gardeners out of place, and journeymen in want of employment, we have never before seen about London: in the nurseries, which formerly used to be a sort of asylum for them, they cannot now find employment even at 12*s* a week. That this state of depression will be followed by a reaction, and that at no distant period, is to be expected, because action and reaction are always reciprocal; but that either the nursery business, or the profession of a gentleman's gardener, will ever be again what it has been, appears to us clearly impossible.

In the first place, with respect to nurserymen, the knowledge of all the best methods of propagation is now so generally diffused, and thereby rendered so easy, that every gentleman's gardener, having once obtained a new plant, propagates it for himself, his neighbours, and his master's friends. This reduces the business of the nurseryman, as far as new plants are concerned, to the profits which he may make during the first three or four years after the new plant is come into his possession. Let a new plant once find its way into twenty or thirty private collections, and unless it is one of extraordinary popularity, such as the pelargonium, the camellia, and a few others, the nurseryman may discard it for ever from his stock. For fruit trees there will always be a demand; because, as long as houses are built or repaired, gardens will continue to be made or altered: but the propagation of fruit trees is now become so general, that it affords very little profit, except to nurserymen in the country, who pay low rents for their land. The rage for forest planting, which prevailed some years ago, when corn and timber were at war prices, and gentlemen consequently full of money, has subsided; and hence the millions of seedling larches, and of Scotch pines, which are raised in the nurseries in Aberdeenshire, at Perth, and at Kilmarnock, are either burned on the spot, or sold at little more than sixpence a thousand. Well dried, and made into small bundles, these seedlings would bring more money in London for the purpose of lighting fires. In short, capital employed in the nursery business returns at present perhaps less than capital employed in any other trade. It once returned more, but the reason why it did so no longer exists; viz. the enjoyment of a monopoly by the nurserymen in the article of skilful propagation of plants. That monopoly is now gone for ever, as other monopolies have gone, and as all will go.

The profession of a gentleman's gardener will never be what it has been, for this simple reason, that his employer is no longer, and never will be again, what he once was.

The highest classes, feeling themselves obliged to retrench, though they will never be able to do without gardeners, will yet learn to dispense with those departments of the profession which are more especially luxurious; and the gardener will be required to extend his management to the woods, or to the farm, or to both. He will, at the same time, while acting in the united capacity of gardener and baliff, find it requisite to possess more botanical knowledge than he does at present; because, as the higher classes get poorer, they will live more upon their own estates, and enter more and more into country pursuits. They will give up forcing various sorts of fruit and vegetables, so as to have them ripe at unnatural seasons, when their only value consists in the difficulty and expense attending their attainment; but every country seat will have its arboretum, and herbaceous ground, and there will be no end to the number of representative systems of hardy plants. As the attention of lauded proprietors, and particularly that of their wives and daughters, will be now more exclusively directed to botany, and other branches of natural history, they will obviously require from their gardeners more knowledge in these sciences. That they will find persons possessing this knowledge, and, at the same time, obtain from them a more varied and more extended description of service, we have not a doubt; because the situation of head gardener, or general manager of an estate, is too comfortable a one not to produce abundance of candidates, with whatever degree of skill for which there may be a demand. In respect to wages, though these may be nominally smaller than at present, they will always be such as to command at least as many of the comforts and conveniences of life as gardeners now enjoy; most probably more.

Our object, in making these remarks, is to prepare the minds of gardeners for the comparatively new state of things which they will find gradually coming upon them. The young and scientific have nothing to fear; every year their value will be better understood: but the young, whose education has been neglected, and the grown-up gardener, who belongs to what may be called the old school, may henceforth both lay their account with falling rather than rising in the world.

We have always strongly recommended to gardeners, whether informed or uninformed, to emigrate to America or Australia, rather than remain in this country; but we more especially recommend this measure to the last class. If they can only raise as much money as will pay their passage to New-York (5*l.* per head, the party providing food and clothes,) or to Sydney (30*l.* per head, including food on the voyage,) they will be certain of finding employment, as common labourers, at from 4*s.* to 5*s.* a day in both these parts of the world; while the price of excellent food and lodging does not exceed a shilling a day in either. After working a few years, as much may be saved as will enable the party to retire to the back woods of the United States, or the bush of New Holland or Van Diemen's Land, and to purchase a farm of 200 or 300 acres. Let no gardener, however, emigrating to either America or Australia, reckon on being employed in any other capacity than as a common labourer; and let him make up his mind, in the former country at least, to work much harder than he has ever been accustomed to do in Britain, and to meet with fellow-labourers who will generally be found his superiors in every description of knowledge except that of gardening.

RURAL ECONOMY.

Modes of dressing Gourds.

To cook the Potiron [Mammoth] Gourd when fresh and fully swelled.—Cut the gourds into slices; and, after paring off the skin, put the slices into a panful of gravy, and, on the fire, boil them down to rag; then pass them through a hair-sieve, and season with white pepper and a little salt; put over the fire again, and boil slowly for half an hour. Then, in a tureen, put a handful of grated Parmesan cheese, upon which pour the soup; mix them well together, then serve up. It will form an excellent dish, and give great satisfaction.

On frying any kind of Gourd.—Slice them thinly half an inch broad, and eight inches long; put them, so sliced, into a sieve or cullender; sprinkle a little salt over them, and let them drop for three or four hours to drain the juice; then put them on a cloth to dry; and, when a little dry, sprinkle some flour; and, a few minutes before dinner, fry them in hog's lard until they get brown and crisp: then serve them up. When scant of other vegetables, this will supply a good dish.

To make a Soup of Gourds, similar to Soupe á Loraine.—When the gourds are young and tender, slice them as above for gravy soup; take two quarts of new milk; put the milk and gourd, so sliced, into a stewpan; and, on the fire, boil them so as they would pass through a sieve. Then, if too thick, add a little more milk; boil slowly over the fire for half an hour; then, just before using, take a mutchkin [pint] of fresh cream, and the yolks of six eggs; mix them all well for a few minutes over the fire; then season with nutmeg, and serve up.

To make Maigre Soup of Gourds.—Take a dozen of fish-heads; and, if you are boiling fish, keep the liquor; put all the heads into it, with a small bunch of celery, parsley, and onions, with carrot and turnip sliced. Let them boil down to rag; then pass through a sieve; add a small quantity of the gourd, sliced as before. Put them over the fire, and boil, so as the soup may pass through the sieve again; put it into your pan; and, on the fire, season it with a little Cayenne and white pepper, and you will have a very fine soup, equal to gravy soup.

To make Soup of Gourd Tops.—Take a quantity of fresh tops of the shoots or stems; cut them in short pieces; parboil them, and drain; then, half an hour before dinner, put them in a stewpan full of gravy over the fire, and boil them slowly for half an hour. Put in a few slices of toasted bread, and you will find this an excellent dish.

Another useful Dish with Gourd Tops.—Collect enough to make your dish; give them a half blanch; then put them in a sieve or drainer, with a sprinkling of salt. After the first course goes up, lay them in a good batter, fry them in hog's lard, and serve them up.—*Loudon.*

Receipts for Puddings.

The quality of various articles employed in the composition of puddings and pies varies so much, that two puddings, made exactly to the same receipt, will be so different one would hardly suppose they were made by the same person, and certainly not with precisely the same quantities of the (apparently) same ingredients. Flour fresh ground, pure new milk, fresh laid eggs, fresh butter, fresh suet, &c. will make a very different composition, than when kept till each article is half spoiled.

Plum puddings, when boiled, if hung up in a cool place in the cloth they are boiled in, will keep good some months; when wanted, take them out of the cloth, and put them into a clean cloth, and as soon as warmed through, they are are ready.

Suet. Beef is the best, then mutton and veal; when this is used in very hot weather, while you chop it, dredge it lightly with a little flour.

Raisins, figs, dried cherries, candied orange and lemon-peel, citron, and preserves of all kinds, fresh fruit, gooseberries, currants, plums, damsons, &c. are added to batter and suet puddings, or enclosed in the crust ordered for apple dumplings, and make all the various puddings called by those names

Be scrupulously careful that your pudding-cloth is perfectly sweet and clean; wash it without any soap, unless very greasy; then rinse it thoroughly in clean water after. Immediately before you use it, dip it in boiling water; squeeze it dry, and dredge it with flour.

When puddings are boiled in a cloth, it should be just dipped in a basin of cold water, before you untie the pudding-cloth, as that will prevent it from sticking; but when boiled in a mould, if it is well buttered, they will turn out without. Custard or bread puddings require to stand five minutes before they are turned out. They should always be boiled in a mould or cups.

Things used for pastry or cakes should not be used for any other purpose; be very careful that your flour is dried at the fire before you use it, for puff paste or cakes; if damp it will make them heavy.

Rice Puddings baked, or boiled.—Wash in cold water and pick very clean six ounces of rice, put it in a quart stew-pan three parts filled with cold water, set it on the fire, and let it boil five minutes; pour away the water, and put in one quart of milk, a roll of lemon peel, and a bit of cinnamon; let it boil

gently till the rice is quite tender; it will take at least one hour and a quarter; be careful to stir it every five mintues; take it off the fire, and stir in an ounce and a half of fresh butter, and beat up three eggs on a plate, a salt-spoonful of nutmeg, two ounces of sugar; put it into the pudding, and stir it till it is quite smooth; line a pie-dish, big enough to hold it, with puff paste, notch it round the edge, put in your pudding, and bake it three quarters of an hour; this will be a nice firm pudding.

If you like it to eat more like custard, add one more egg, and half a pint more milk; it will be better a little thinner when boiled; one hour will boil it. If you like it in little puddings, butter small tea-cups, and either bake or boil them, half an hour will do either: you may vary the pudding by putting in candied lemon or orange-peel, minced very fine, or dried cherries, or three ounces of currants, or raisins, or apples minced fine.

If the puddings are baked or boiled, serve them with white wine sauce, or butter and sugar.

Rice Snow Balls.—Wash and pick half a pound of rice very clean, put it on in a saucepan with plenty of water; when it boils let it boil ten minutes, drain it on a sieve till it is quite dry, and then pare six apples, weighing two ounces and a half each. Divide the rice into six parcels, in separate cloths, put one apple in each, tie it loose, and boil it one hour; serve it with sugar and butter, or wine sauce.

Cottage Potato Pudding or Cake.—Peel, boil, and mash, a couple pounds of potatoes: beat them into a smooth batter, with about three quarters of a pint of milk, two ounces of moist sugar, and two or three beaten eggs. Bake it about three quarters of an hour. Three ounces of currants or raisins may be added. Leave out the milk, and add three ounces of butter,—it will make a very nice cake.—*Cook's Oracle.*

NATURAL HISTORY.

TO THE EDITOR OF THE NEW-YORK FARMER.

Prescience of Birds.

Sir—I send you the following, taken from the North American Review. I am delighted with every thing relating to Birds, and I trust your readers derive pleasure from the same source. W.

It is well worth while to observe the provision which birds make for their own wants, and to see how while reason sometimes falters, instinct always operates with the same certainty and success. We have already mentioned the woodpecker, who grasps the trunk of a tree with his claws, and stands upon his tail, drawing out insects from their burrows in the wood. It is said, that he goes to an ant's nest and lies down pretending to be dead, with his tongue out, drawing it in, however, as often as it is covered with the ants, which are a favorite article of his food. The nuthatch opens nuts, or the stones of fruit, by repeated blows of his sharp horny bill. The butcher-bird, which lives on insects and smaller birds, is said to attract the latter by imitating their call, and has also a habit of impaling upon thorns such insects as he does not need at the moment. Some have thought this a trap set for other birds; but this is improbable, because unnecessary. It seems more likely that this trick of gathering what he does not want, and keeping it till it is of no use to him, is one which he has learned in his intercourse with man! The whippoorwill sits upon the fence, or the step of a door, singing mournfully, as if he had lost all his friends; but wo to the moth who believes in the mourner's having lost his apetite also; the bird seizes and swallows him without any suspension of his song. The raven and the gull, who are fond of shell fish, but are not provided with the instruments to open them, carry them high into the air, and let them fall on rocks, in order to break the shell. In this way it is said that a philosopher's head was broken, in ancient times, being accidentally mistaken for a stone; whether this be true or not we cannot say; the heads of sages are harder now. The bald eagle, proud and disdainful as he seems, gets a great part of his living in a manner that does more credit to his ingenuity and strength, than to his morals. He sits in gigantic repose, calmly watching the play of the fishing birds over the blue reach of waters, with his wings loosely raised, as if keeping time with the heaving sea. Soon he sees the fish hawk dive heavily in the ocean, and reappear with a scream of triumph, bearing the sluggish fish. Then the gaze of the eagle grows fiery and intense; his wings are spread wide, and he gives chase to the hawk till he compels him to let fall his prize; but it is not lost, for the eagle wheels in a broad circle, sweeps down upon the edge of the wave, and secures it before it touches the water. Nothing can be more majestic than the flight of this noble bird; he seems to move by an effort of will alone, without the waving of his wings; pity it is, that he should dishonor himself by such unworthy robbery as this, though it by no means destroys the resemblance between the king of birds and the kings of men.

TO THE EDITOR OF THE NEW-YORK FARMER.

Tortoise.

Of this order of footed reptiles, there are in some authors, more than fifty species described. Linnæus made but one genery, (*Testudo*) of them, but later Zoologists have divided them into several. One of these is called *Chelonia*. It is more aquatic than the others, its feet being badly calculated for moving on land; though they do go ashore, a short distance, to deposit their eggs. The *Chelonia mydas* the green or esculent turtle is from 6 to 7 feet long, and wide and thick in proportion and the best of the whole order to eat. The *Chelonia coriacea*, the sea turtle whose shield is not horny, but leathery, is from 7 to 8 feet long—and is the largest known species of the order. A specimen of this is now to be seen in the American museum of this city. It was taken in the water not far from Sandy Hook, Sept. 1811. It is 7 1-2 feet long and weighed 800 lbs.; and it is supposed that if the blood it lost in its capture was added, it would make its weight 1000 lbs. This specimen, to be sure, has long been exhibited here, but it is not to be supposed that all our readers have seen it.

The *Chelonia imbrecata* is from 3 to 5 feet long, and is called the Hawksbill Turtle. From this is obtained the turtle shell of which combs are made. The animal is killed, and the shield taken off and heated, and the plates about 30 in number are thus loosened so as to be taken off. The price of this varies from 12 to 20 dollars a pound, and of course, a piece large

enough to make a good sized lady's comb, must be worth, at least, a dollar, and perhaps two of them. Horns are worth more than many are apt to imagine. They are imported from South America and India and sold to the comb-makers at a price varying from 12½ to 50 cents each. If all the combs that are made or could be made of horn and turtle shell were equally distributed among all the people upon the globe, those of the United States and western Europe would receive a much smaller number then they now have.

A similar remark may be made with regard to brushes that are made of hog's bristles. These are imported for our brush-makers in large quantities. Many come from Russia. FRANKLIN.

New-York, June 26.

TO THE EDITOR OF THE NEW-YORK FARMER.

Gold Fish—Thorburn's Seed Store.

The gold fish that is seen in glass vessels at the public houses in this part of the country is the *Cyprinus auratus.* Of this group 70 species are described in some of the books; and I find it suggested that it ought to be divided into two or more generies. Some of them grow very large though the size is not stated, and have been known to live 200 years. Some of the pikes, *Esox,* are said to live 260 years.

The species under consideration lives in fresh water and seldom exceeds ten inches in length. It was introduced into Europe from China. Its existence in England is traced as far back as 1691. From thence it found its way to this country.

Mr. Thorburn, who keeps a seed store in Liberty street, in this city, has an abundance of them for sale. You may see them there of various colors in a little pond that is made for them. Some are black, and some are partly so and spotted with red, and some are reddish-white; and their dorsal fin varies in form, size and position; an occurrence that is apt to take place with regard to those fish in a domestic state.

Mr. Thorburn has many specimens of fowls, some of which are in the living state. Among them are two or three species of the Pheasant. Some of the Pyrhula, Embriza, Fringilla, Columba, &c.

His plants, and it must be remembered they are all exotics, are well worth looking at; and some of them are real curiosities. There is the Agave which, if it is not the one whose fibres constitute the sisal hemp, it does not differ very widely from that plant. The various' species of Cactus, Geranium, Mesembryanthemum, one of which, the ice plant, is covered with, exudation from itself which looks something like ice at a distance—all these and hundreds of others attract the attention of many visitors, whose time for a few minutes is profitably, in my opinion, as well as agreeably employed in looking at them. FRANKLIN.

New-York, July 2, 1832.

MISCELLANEOUS.

From the Protestant Episcopalian.

The Death of the Flowers.

Lightly came Spring on her fairy-like feet,
Her breath was a balm of the sweetest sweet,
In a robe of the greenest of green was she dress'd,
And a bouquet of flowers blush'd on her breast:
She came to build with her genial power,
A beauteous roseate, lilied bower.
Already ten thousand were springing to birth
Of Flora's fair children to gladden the earth;
And Zephyr was luring, with soft, balmy breath,
Unconscious, the sweet ones, to untimely death:
For Winter with icy cold breathings again,
In his white snowy mantle, swept over the plain;
With his withering pow'r he furtively crept,
To the innermost germ where the embryo slept;
And he wove it a downy-soft snow-white shroud,
And the north wind chanted its coronach loud.

And thus it is often in youth's early spring
When beauty is budding, and hope's on the wing,
When the world is before us unspotted and fair,
And life seems a summer unclouded with care:
How often comes Death, with his withering power,
And blasts in a moment, the opening flower;
And blights the soft graces just springing to birth,
And all the young hopes which were built upon earth.

Ah, then, learn a lesson; and strive in thy youth,
To build your affection on Wisdom and Truth;
And now, whilst thy hopes are as flowers new blown,
To lay up thy treasures where death is unknown,
For the buddings of early devotion and love
Will open, and blossom, forever above.

TO THE EDITOR OF THE NEW-YORK FARMER.

Tour on Long Island.

I have a few words to say respecting Long Island. The business you set me upon, of settling with the old subscribers, and obtaining new ones to your paper, has led me considerably back and forth there in the towns of Brooklyn, Flatbush, Jamaica, Newtown, Flushing, Cow-Neck, Hempstead, Musqueto-Cove, &c.; and in the first place you will permit me to observe, that I find your patrons here considerably numerous and well pleased. The original inhabitants are much like those of Connecticut; but the new-comers, who constitute a large proportion in some of the towns near New-York, have brought each the habits of his own country with him. The stones are granite, mica, and quartz, and consist of rounded masses of various sizes; the soil is a little reddish, but not argillaceous: that is, it would not be called so, though consisting, as it does, of the ruins of granite, it must necessarily contain some alumine. It may have been washed in or deposited there, though I have not observed it, in many cases, to be stratafied. In digging, you will find numerous rounded masses of granite, some of which are as large as a hogshead. There are many streams of fresh water upon this island, and some of them are so large as to carry a grist-mill. Water is generally found at the depth of about twenty feet from the surface. I shall not now enter into an argument to prove that this is rain-water, which is kept there by the surrounding salt-water. The soil is dry and gravelly; and the forest trees and other natural productions, are like those of Connecticut; every body in this vicinity knows that gypsum has but little or no effect upon vegetation here. Leached ashes, from the asheries along the Hudson river, are brought here and put upon the land, and also manure that is made in the city of New-York; this is landed at the various inlets upon the north side of the island and carried back into the interior, in some cases, eight or ten miles:

and where this manure and ashes are put, much wheat, clover, timothy grass, and Indian corn are raised. The common locust, *Robinia pseudacacia*, will soon become a very common tree here. You will see now and then, perhaps, an acre of land covered with young ones; it is good for fuel, some say it is as good for this purpose as hickory; for posts in the ground it lasts much longer than chestnut; it is brought to New-York and used in ship-building; it makes a good shade tree; and is, on the whole, a very profitable tree to raise. Many cherries of different species are raised here for the New-York market; and many good orchards of apple trees are to be seen here. The pear, the apple, the quince, and crab-apple, have long been known in this country; but at Mr. King's house, in Jamaica, I saw a fifth species of the *Pyrus*, which they told me there, was brought from Africa. I have seen several fine gardens on my tour; Mr. Prince's, of Flushing, will deserve a particular description at some other time; and so will Mrs. Parmentier's, at Brooklyn. The route for the rail-road from Brooklyn to Jamaica, about 12 miles, is soon to be surveyed; it was chartered last winter with a capital of $300,000. Should this be extended through the island, it would take much travel from the eastward.

A rail-road is making from Boston to Providence; thence by water to the east end of Long Island, and thence to New-York; such would be the course of much of the travel between New-York and Boston.

A canal, about a mile long, is contemplated for the purpose of avoiding Hurlgate in Long Island Sound. I viewed the ground both upon land and on the water; it is apprehended that a solid rock of granite will be found there in digging, if so the work will be expensive. It is intended to make the channel deep and wide enough to admit the largest merchant vessels. As yet there is no incorporation, in this case, and how they succeed in obtaining subscriptions, I cannot say. The expense is variously estimated from $200,000 to $500,000. FRANKLIN.

TO THE EDITOR OF THE NEW-YORK FARMER.

TOUR FROM NEW-YORK TO PHILADELPHIA.

The Clay Beds of Woodbridge.

Here is gotten the white clay of which the furnaces are made that are common in families in this part of the country. It is found at the surface, extending, where they have dug, about ten feet deep; the top is covered with reddish argillaceous earth, the ruins probably, of ordinary granite. In this clay you will observe large masses of reddish sand; this is all saved to mix with the clay, and is said to be better than any other; two parts of this clay require one of sand for being moulded into vessels. It stands fire, and makes good crucibles. Delivered at Woodbridge creek, distant about two miles, it is worth from 87 cents to $1 a load for two horses; thence it is taken in vessels, and carried to various parts of the country to be used.

Some of this clay is bluish, very fine, and makes good stone-ware. I adopt the opinion, that this was once a granite rock: the white clay is the felspar, and the red sand the quartz; of mica, there appears to have been but little or none. The fine blue clay was probably adularia. Most of the clay of which our stone-ware is made is got at Amboy, a few miles to the south of this.

From Elizabethtown to Brunswick, I passed over the same reddish and argillaceous region of which I have spoken. At Rahway there are two factories, one for calicoes, and the other for woollen. The description of Brunswick, I leave you to collect from other sources; as to the college I would just observe, that there are, at present, about seventy students; that Dr. Mildoler is president, and that Mr. Strong, who as a mathematician, ranks with Adrain, Bowditch, Farran, and Day, is professor of mathematics there.

I had a few plants that were rather new to me, but have just called on Dr. Beck, professor of chemistry and natural history in this institution, and we soon concluded what to call them.

The *Liquidamber*, called the gum tree, is quite common along this road. I have seen it upon Manhattan Island; and I suspect it will not be found any where to the north of that place.

The white wood, *Lyriodendron tulipifera*, is also common in the northern part of this state; it grows, but not plentifully, upon the highlands in Berkshire county, (Mass.), and probably upon the same range of hills in Connecticut; but I am not aware that it is found elsewhere in the New-England States, or in the state of New-York, unless it may be upon the Catskill mountains. The books describe but one species of either of these trees upon this continent.

I have stopped at some paper mills in this region of the country, and find that they do not use rye straw as much as they do in many places to the eastward for making coarse wrapping paper; but continue to use old cordage, sails, &c. for this purpose, for which they pay from one to two cents a pound. They tell me they can mix with this from ten to twenty per cent of woollen, and still make the paper answer a good purpose.

A short time since, I conversed with a man who was dressing morocco leather; he told me he sewed up his skins, forming a bag, and filled them with sumac leaves and water; thus treated, they would be tanned through in twenty-four hours. The berries of this plant contains tanin, but they color the skin a dark red. Put in copperas into an extract from them and you will have a good black. Sumac leaves, for tanning, are imported from the countries around the Mediterranean. Are these from the *Rhus glabra*, the same species that we have here?

Near the Raritan, at the south part of Brunswick, large quantities of clay slate is taken up in suitable blocks for building. Proceeding down the river about a mile and half, I came to a grist-mill, where they were grinding ginger roots; what was then grinding was mixed with an equal quantity of Indian meal; and they told me they ground it as they had orders to do, sometimes with the Indian meal, and sometimes without it; and that they kept one run of stones going in this business as much as one fourth of the time. You will say that the author of this cheat ought to be exposed.

About three miles from Brunswick, I came to the residence of Mr. William Woodworth; he pointed me, about a hundred yards from his house, to an inexhaustible bed of peat, which is dug in large quantities. Peat ashes, he says, will kill or drive off bugs from plants, and even the Hessian fly from wheat.

I now found my way to the great turnpike which

crosses the state from Jersey to Trenton. The fields of wheat and clover which appear occasionally throughout this region are a pleasant sight, and the latter diffuse a pleasant smell.

The turnpike of which I have spoken has been made only about thirty-five years; of course it is not thickly settled. From Brunswick to Trenton it is straight; at some places upon it you can see five or six miles. The tall white oak trees are numerous along the way, and yield large quantities of the choicest timber for ship building.

Leaving this road, I turned to the right and passed through Kingston and Princeton; at the former place, I crossed the Raritan and Delaware canal; they were building a lock there; and making use, for the purpose, of granite, which is brought from Haddam, Connecticut; for a cement, they use the calcareous sand-stone, which was found abundantly in excavating the Erie canal.

Of Princeton, I shall leave you to find a description elsewhere. The college and theological seminary contain each about 120 students. I had a few plants on arriving here, that were new to me, but that distinguished botanist Dr. Torrey, professor of chemistry and natural history in the medical college, New-York, and lecturer upon those subjects here, happens now for a few days to be absent.

Leaving Princeton, I came on to the great turnpike again, which passes about a mile and a half south of that place, crossing the Raritan and Delaware canal on the way. This canal was chartered in 1829–30, with a capital of $1,000,000; it will probably cost $2,000,000. The route for it was surveyed the following summer by Mr. C. White. It enters the Raritan just above Brunswick, and the Delaware, just below Trenton; its length is about 38 miles, and is fed from the Delaware by a feeder 28 miles long. It is nearly half done.

I made my way to Crosswicks. The soil is dryer, less red, and argillaceous than it was where I had passed, and clover and wheat fields are numerous; but grain was injured last winter. At Crosswicks, I crossed the rail-road which is making from Amboy to Bordentown. This also was chartered in 1829–30, with a capital of $1,500,000. The intention was to extend it to Philadelphia; perhaps it may go there yet. It was surveyed in 1830, by Mr. Cook; it is nearly half done; it must take the travel which is now found upon the road from Brunswick to Trenton.

Much lime is used in this region as a manure.

Leaving Bordentown for Burlington, I passed the residence of Captain Stewart, with whom I made a voyage to the Pacific, some years ago, in the U. S. ship Franklin—74; I wished to see him, but I could not conveniently stop. He is now the seignior commander in our service, and, therefore, has our whole navy under his charge.

In this region I find several plants that do not grow in the New England states, and among them is a two-leaved pine, and the pearmain plum.

Any particulars respecting these villages you will find in books. I took the steam-boat, which soon landed me at Philadelphia. The land along the river here is low.

The clay of Philadelphia was once granite; in proof of this, masses of this rock, in a state of decomposition, are found in it; it rarely extends to the depth of fourteen feet; the bottom is more argillaceous than the top, and when the whole is mixed together it requires no more sand, to be moulded into bricks.

Mr. Peale gave me a ticket to visit his museum. I shall institute no comparison betwixt this and those at New-York; you will find some things in each which you will not find in the others; and either of them does honour to the country and age.

The water works, and navy yard I have visited, but you will find them described by various writers, and so you will the theatres, the United States bank, masonic hall, market, shot towers, and general aspect of the city. The marine hospital, which stands at the south-west part of the city, and which is not yet done, is one of the most superb buildings upon the continent; the first story is granite, and other two marble.

I have visited the gardens of this place, and find many of them equal to their well known celebrity; and I intend to give you a full description of them at some future day. FRANKLIN.

Cabbages.

TO THE EDITOR OF THE NEW-YORK FARMER.

Sir,—There are many varieties of this plant, but I shall confine my remarks to those only which I consider the most useful in the animal economy. First, Battersea and Early York; the seeds of these varieties should be sown in a hot-bed, about the 20th of March, 1st, 10th, and 20th of April, and transplanted into the open air in succession, as they arrive at a proper size. The early transplantings will be liable to frosts, but this may be obviated by putting a little swingletow over them whenever cold nights are threatened. They will come into full head in July and August, and furnish a good supply for summer use. A few seeds should be sown between the first and 10th of July; these will come into head in the fall, may be kept over winter, and will furnish stumps for seed next spring. By this means, a plentiful supply of fresh seed may be had in this country, as well as in England. The drum-head cabbage is too well known to need any particular directions. The same may be said of the red Dutch. The only value of this variety, is its beautiful color when mixed with the drum-head in a slaw dish. In transplanting all kinds of vegetables, a little earth should be taken in a bowl or pan, wet with water to the consistency of cream, and the roots of the plants as soon as they are taken up should be wet in this mud, and the transplanting done between 3 o'clock in the afternoon and sun-down, so as to give the plants from 16 to 20 hours time to take root before they are exposed to the hot sun. If these directions are carefully observed, transplanting can be done in dry weather, and very few will fail. Cabbage plants of all kinds are very liable to be injured by the small fly and worms, if sown on the ground, but if raised 12 or 14 inches from the ground in a box or scaffold, I have rarely experienced any inconvenience of this sort. In transplanting for seed, care should be taken to set each variety at a distance from any other; otherwise they will intermix and produce a mongrel variety. Such is my experience on this subject; and I remain

Yours, &c. R. M. W.

Middlesex, June 30, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Celery.

Mr. Editor,—There are few vegetables that afford a greater luxury than celery, and for a good salad all winter none can be more desirable in a family. Its cultivation is less general than it should be; some directions for its manngement may not be unacceptable to your readers.

Sow the seed about the first of May, on a shady border, or in a box filled with earth. About the 20th of May prepare your ground, by trenching it about twelve inches deep; in the bottom of the trenches put two or three inches of old dung, which should be covered about an inch with fine mould, and shake it smooth, on this the plants may be set in a single row, about thirteen inches apart; as it grows, keep earthing it up, by heaving in the dirt that was thrown out.

In the fall it should be raised, the roots and green tops cut off, and the blanched part packed in a box, covered with sand. In this situation it will keep all winter, and supply the table with a fine salad at a season when no other can be had.

Yours, &c. R. M. W.

Middlesex, June 30, 1832.

To the Editor of the New-York Farmer.

Varnish and Whitewash.

Messrs. Editors,—I have noticed in several papers, of late, an extract from Mina's Journal, recommending to put varnish with whitewash. I had a very fine wall, and having great faith in newspapers, I was desirous of *killing two birds with one stone*, that is, to whitewash and varnish my wall both at once. So I mixed up a bucket of whitewash in the usual way, and added a pint of copal varnish to it; I stirred and stirred, but could not make it mix for the life of me: the varnish would rise to the top, in spite of all I could do; but relying that no *cautious* Editor would admit any thing into his paper but what was the result of experience, observation, or strict enquiry, I dipped in my brush, and applied it to my wall; the varnish sank into the wall immediately, and I could never get a particle of whitewash to stick to it afterwards. My wall is ringed, streaked, and pied, like Jacob's cattle, all in blisters, and totally spoilt, where the varnish has touched it. On a little enquiry, I found that most varnishes are prepared of spirits of turpentine, which is lighter than water, and will not mix with it; is of an oily nature, and will not receive whitewash. Verily, I wish these editors would be more careful how they recommend such absurdities.

Yours, &c. Carlo.

Productions and Climate of Liberia.

We have received the Address of the Managers of the American Colonization Society for 1832. It contains much interesting information—and has a map of the territory. The object of this society should be dear to every true patriot and philanthropist. We make the following extracts:—

Fertility and Agriculture.—In their address, the Colonists say, "A more fertile soil, and a more productive country, so far as it is cultivated, there is not, we believe, on the face of the earth." Dr. Randall says, "that the land on both sides of Stockton Creek, is equal, in every respect, to the best on the southern rivers of the United States."

Mr. Ashmun thus enumerates the animals and products of the country: Horses, cattle, sheep, goats, swine, ducks, geese, chickens, and Guinea fowls, in abundance; fish in the greatest plenty; plantains, bananas, vines, lemons, oranges, tamarinds, mangoes, cashew, prunes, guava, pine apple, grape, cherry, and a species of peach; sweet potato, cassada, yams, cocoa, ground nuts, arrow root, egg plant, okra, every variety of beans and peas, cucumbers and melons, pumpkins, &c. &c.; rice, Indian corn, Guinea corn, millet, pepper, excellent coffee, sugar, cotton and indigo. Indeed, sugar, cotton, coffee, and indigo, grow wild.

Climate, and Health of the Settlers.—In the early years of the Colony, want of good houses, the great fatigues and dangers of the settlers, the discouragements they met with, their ignorance of the proper mode of living, and of the best remedies, aided the other causes of sickness, and produced great mortality. But those times are past and forgotten. Their houses and circumstances are now comfortable; they are abundantly supplied with medical assistance; and for the last five years (as stated in the address of the Colonists in 1827,) not one person in forty, from the Middle and Southern States, has died from change of climate. The effect is most severely felt by those from the Northern States, or from mountainous parts of the Middle States; but experience has proved that, with ordinary prudence, no danger is to be apprehended even by persons from those places, who are sober and have no radical defects of constitution. As the country becomes more thickly settled and better cultivated, it will, like all other new countries, become more healthy. From the past mortality or present sickliness, no discouragement will be felt by those who have read an account of the early attempts to found colonies in this favored land. At a little distance from the sea, the land becomes more elevated, and there is the best reason to believe that the causes of disease on the coast are unknown in the interior. On these highlands, settlements will doubtless soon be established. Under the date of the 28th of April, 1832, Dr. Mechlin writes, "among the emigrants by the Volador, Criterion, Orion, James Perkins, Margaret Mercer, and Crawford, the number of deaths will not average quite 4 per cent." For emigrants from the wide extent of our southern country, the climate may be pronounced salubrious.

Commerce.—The Colonists are actively engaged in trade, disposing of goods supplied by this country and England, for dye woods, ivory, hides, gold, palm oil, and rice, which they purchase by barter from the natives. The nett profits on the two articles of wood and ivory, passing through the hands of the settlers, from January 1st, 1826, to June 15, 1829, was $30,786. In 1829, the exports of African products amounted to $60,000. In 1831, forty-six vessels, twenty-one of which were American, visited the Colony in the course of the year, and the amount of exports was $88,911.

TO THE EDITOR OF THE NEW-YORK FARMER.

A Fable.

(Translated from the French of M. Perrine.)

On an evening of a clear and serene day, there was an artificial fire-work on the banks of a river. At the noise of the crackers, and at the sight of the thousands of fiery serpents, all the fish, whether great or small, were terribly frightened. Ah! cried they, trembling with fear, the world is coming to *an end!* Let every one of us think of our sins. Ah! we merit it *well*, said a penitent pike, we eat one another without mercy. Alas! for the weak and poor; for my part, I repent with all my heart and soul. O, Jupiter! have pity on our miserable race, and cause this exterminating fire to cease, I pray you! and I promise you, in the name of all the other fishes, never to eat again any more little fish. While the penitent pike was imploring the clemency of Jupiter, the fire ceased, and their terror ceased with it, their appetites returned, and every one thought of nothing but to make a good breakfast, and the penitent pike fell to, and eat all the pickerel he could come at.

Moral.—When people are in danger they make a thousand promises, which they too seldom think of performing afterwards.

Mr. Editor,—The terrors which pervade our country at the present day, seem not unlike those recorded in the above fable. In 1793 we had a very simil..r scene. Every body was flying from the yellow fever, every feeling of humanity, every right of hospitality was disregarded and forgotten; and I believe the alarm was equally unfounded among the fish on account of the fire works, as among the people on account of the yellow fever in 1793, and on account of the cholera at the present time. I have been five times attacked by the yellow fever, have been with it and nursed it in all stages, in more than a thousand cases, and never knew of a single case of infection; and, I am persuaded, that the cholera is as little infectious as the tooth-ache. The expedients recommended by the papers, appear to me absurd and useless in most cases.

I believe that mucilaginous drinks, and the treatment recommended in the New York Farmer, will be found the only effectual remedy, and if resorted to in the early stages of the complaint, will remove every distressing symptom almost instantly, in 99 cases of the 100. This disorder is rapid, and if neglected, or improperly treated, very fatal, but, if properly treated, is as easily cured as any other disorder of the human system. That very fatal errors with regard to the treatment of this complaint have prevailed, is very obvious, I think, from the ill success attending it hitherto. That a more judicious course may be adopted, and that the present alarm may pass away, is the sincere wish of, yours, &c.

Carlo.

Remarks.—We really wish that our respected correspondent's remedy could be tested. He must deputize some one, and send him to the infected districts. Although we remain in the city, and live in much less apprehension of the cholera than we would of the common insidious epidemics of the country, still *new* doctors and prescriptions have so vastly multiplied, that we have no disposition to urge even so pleasant a medicine as chicken soup. Chickens, by the by, are a very scarce article, and we could wish Carlo's remedy might become noted, that farmers might realize two or three hundred per cent. advance on their poultry. Thus well disposed are we towards farmers; and as one good turn deserves another, we would thank all delinquent subscribers to pay up without the least delay. If they do so, we are confident that we shall be free from all *choleric* sensations. If they do not do the thing that is right, we think, since peace of conscience and a tranquil mind are excellent preventives, that their own liability to the cholera will be increased.

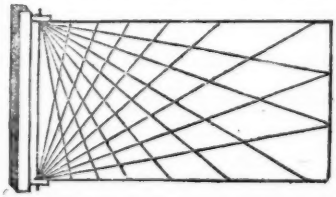
Gates.

One of the conveniences and ornaments of a farm, is that of the gate, when strongly and handsomely constructed. The form has ever been as various as their durability. Most of the farm gates of this country are by no means made on the most correct mechanical principles, nor are the materials, in many instances, of the most durable nature.

As a general rule, the post or pillars to which the gate is attached, should be of stone, made up with mason work, or hewn from a solid rock. Stone posts last for ages, and admit of much ornament. They serve as a support to the connecting parts of the fence, rather than weaken them, as is often the case with wooden posts, by the frequent and violent opening and shutting of the gate. Whether wood or stone is used, the posts should be inserted to a depth below that to which the ground is usually frozen in winter. The wooden posts should receive two or three good coats of paint, particularly at the surface of the ground. This last item of expense is quite necessary to correspond with the natural durability of the material, and the labor bestowed.

The ties, or horizontal parts, or bars, should gradually taper towards the latch or opening part, that this part may be as light as possible. The trults, or pieces to support the perpendicular force should be few and light, but placed in a situation to give the most possible strength. The following drawing exhibits the principles of strength, and of lightness towards the part farthest from the support. It cannot, however, be given as a specimen of a beautiful form. The drawing is taken from Loudon's Magazine. It was communicated by Mr. Robert Mallet, of Dublin:

'In your chapter about gates, fences, &c. you might,' says Mr. M. 'take notice of Mr. Telford's gate of iron, on the Holyhead road, made of flat bar iron; a rivet at every intersection. You will see that a better mechanical arrangement of forces could not be made.'



July.

The clouds poured out water; the skies sent out a sound; thine arrows also went abroad.

"The voice of thy thunder was in the heaven; the lightnings lightened the world; the earth trembled and shook." Psalms lxxvii. 17, 18.

"Look upon the rainbow and praise him that made it; very beautiful it is in the brightness thereof.

"It compasseth the heaven about with a glorious circle, and the hands of the Most High have bended it." Ecclesiasticus xliii. 11, 12.

Now let me tread the meadow paths
While glittering dew the ground illumes,
As, sprinkled o'er the withering swaths,
Their moisture shrinks in sweet perfumes.

Summer! glowing summer! This is the month of heat and sunshine; of clear, fervid skies, dusty roads, and shrinking streams; when doors and windows are thrown open:—a cool gale is the most welcome of all visitors, and every drop of rain is worth its weight in gold! Such is July commonly; yet it is sometimes, on the contrary, a very showery month, putting the haymaker to the extremity of his patience, and the farmer upon anxious thoughts for his ripening corn. Generally speaking, however, it is the heat of our summer. The landscape presents an air of warmth, dryness and maturity: the eye roves over brown pastures, corn fields already white to harvest, dark lines of intersecting hedge-rows, and darker trees, lifting their heavy heads above them. The foliage, at this period, is rich, full and vigorous; there is a fine haze cast over distant woods and bosky slopes, and every lofty and majestic tree is filled with a soft shadowy twilight, which adds infinitely to their beauty, a circumstance that has never been sufficiently noticed by either poet or painter. Willows are now beautiful objects in the landscape: they are like rich masses of arborescent silver, especially if stirred by the breeze, their light and fluent forms contrasting finely with the still and sombre aspect of the other trees.

Now is the general season of haymaking. Bands of mowers, in their light dresses and broad straw hats, are astir long before the fiery eye of the sun glances above the horizon, that they may toil in the freshness of the morning, and stretch themselves at noon in luxurious ease by trickling waters, and beneath the shade of trees. Till then, with regular strokes, and a sweeping sound, the sweet and flowery grass falls before them, revealing, at almost every step, nests of young birds, mice in their cozy domes, and the mossy cells of the humble-bee streaming with liquid honey; anon, troops of haymakers are abroad, tossing the green swaths to the sun. It is one of Nature's festivities, endeared by a thousand pleasant memories and habits of the olden days, and not a soul can resist it.

There is a sound of tinkling teams and wagons rolling along lanes and fields the whole country over, aye, even at midnight, till at length the fragrant ricks rise in the farm-yard, and the pale smooth-shaven fields are left in solitary beauty.

They who know little about the country may deem the strong *penchant* of our poets, and of myself, for rural pleasures, mere romance and poetic illusion; but if poetic beauty alone were concerned, I must still admire harvest-time in the country. The whole land is then an Arcadia full of simple, healthful, and rejoicing spirits. Overgrown towns and manufactories may have changed, for the worse, the spirit and feelings of their population; in them "evil communications may have corrupted good manners;" but in the country at large, there never was a more simple-minded, healthful-hearted and happy race of people than our British peasantry.—*Hewitt's Book of the Seasons.*

TO THE EDITOR OF THE NEW-YORK FARMER:

To make Poposee.

Dried flower leaves put in a covered vase, with salt petre put among them, say half an ounce to a pint of leaves, and a few drops of the otto of roses, make a fine substitute for fresh flowers. The perfume may be enjoyed for months, or even years, without any addition.

As this is the season for making this pleasant little fancy, I would say to the lovers of Flora, collect the leaves of your wall flowers, sweet scented honeysuckle, some of the most pleasant geraniums, sweet briar and roses, with any other of the agreeably scented, spread the leaves on a cloth, and when sufficiently dry, mix as directed above. The little luxury will pay the trouble. We may be worse employed than in conversing with flowers. They are innocent companions, at least; and in those hours when the most industrious look for relaxation and amusement, it will be happy for us if we find no society more noxious than that of these pure and beautiful parts of the creation. A. W.

July 4, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Indigenous Plants.

Sir,—In compliance with your request, I send you a list of indigenous plants, esteemed for the beauty of their flowers. Those of the first paragraph are found in the vicinity of this place, and those of the second, of Albany. The third contains a list noticed last September, on the banks of the canal between Schenectady and Utica. Many of those found here are also common to Albany. Yours, A. W.

Lansinburgh, June 20, 1832.

Kalmia angustifolia, Atragene americana, Aquilegia canadensis, Trillium atropurpureum [purpureum?], Cypripedium spectabile, C. pubescens, Gentiana saponaria, G. Crinita, Geraneum maculatum, Gerardia flava, G. glauca, Orchis spectabilis, O. fimbriata, O. ciliaris, [the last two belong to Habenaria, according to Torrey,] Pogonia ophioglossoides, Malaxis liliifolium, Lobelia cardinalis, L. siphilitica, Glycene apios, Chelone glabra, Lupinus perennis, Lilium superbum, L. canadense, L. philadelphicum, Cassia marilandica, C. nictitans, Asclepias tuberosa, Apocynum androsœmifolium, Astragalus canadensis.

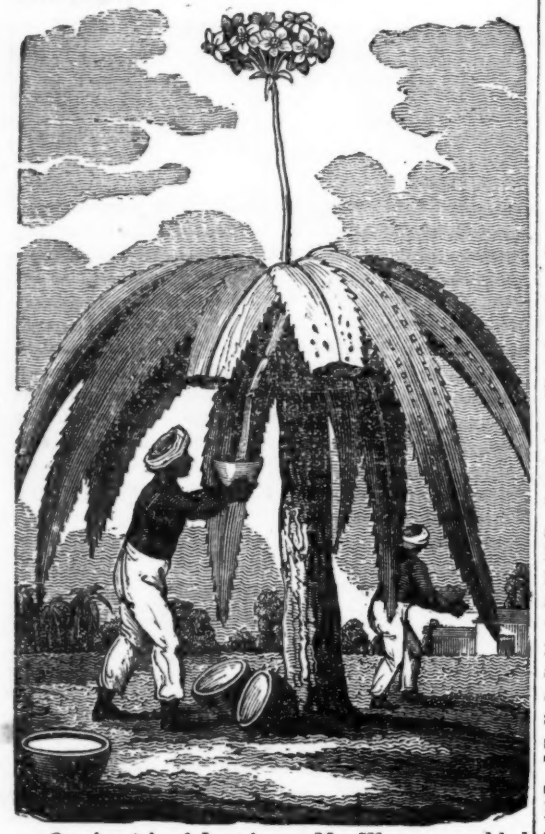
Trillium erectum var. album, Cypripedium humile, Epilobium spicatum, Rudbeckia lacinata, Galega virginica.

Eupatorium album, Clematis virginiana, Impatiens nolitangere, Eupatorium purpureum, Convolvulus panduratus, Lobelia siphilitica, Solidago gigantea, Gaura bienris.

TO THE EDITOR OF THE NEW-YORK FARMER.

American Aloe.—*Agave Mexicana.*

Sir,—The following description and drawing are taken from a letter from Mr. D. Williams. He was in the service of the Anglo-Mexican Mining Association. The letter, which I translate from the Welch, was written to his friends in Wales, giving an account of his journey from Vera Cruz to the silver mines at Guanaxuato. He calls it by the common name, American Aloe, which is, I suppose, the Agave Mexicana.



'On the 9th of June,' says Mr. W. 'our road led through an uneven country, over limestone rocks—the surface white and hard, with scarcely any thing growing upon it but the American Aloe. This is one of the most useful trees in the whole country. It is from this they make the spirit called *pulque*, the most common drink of the natives. Its taste some say is much like cider, but to me it tasted more acid or sour. It is also stronger, and intoxicating in large quantities. They plant it generally in the hedges to divide the fields, and it will grow upon rocky places with hardly any soil or earth.

'It is so hard that the keenest tool will hardly affect it. The height is from 4 to 6 feet, with its branches extending about the same circumference. It tapers from the middle upwards; and about a foot from the ground up to the middle, it throws out large leaves a foot wide, and from 8 to 10 inches thick. The edges are prickly, and the ends bend towards the ground. It takes from 10 to 12 years to ripen, when the leaves are cut off about the middle. A bowl large enough to receive about a gallon of the sap, is then emptied, once or twice a day, for the period of two months. The next process is to ferment it, by putting it in a skin bag for a few days with the mouth open. From the leaves of this tree they make the ropes of the country, which are excellent, being much stronger and more lasting than those of hemp. From the roots a brown sugar is made, called *dulce;* and from the cones aquardente is made, which is the strongest I ever drank. Their mode of carrying *pulque* through the country is rather laughable. You will see two or four sheep or hog skins on an ass or mule; and sometimes a whole hog's skin on a man's shoulders, the head and legs hanging as if the animal was alive. The skin must be opened now and then, lest it burst, and discharge the contents. Pulque is sold at about the same rate that beer is with you. J. W.'

The Bread Fruit Tree.

In its botanical relations, the bread fruit tree is a species of the *Artocarpus* genus of Forster. In the sexual system of Linnæus, it is of the *Monœcia monandria tribe*, and must not be confounded with a dwarf palm tree, a native of Africa,—which equally bears the name of bread fruit tree. It affords an agreeable sustenance to some tribes north of the Cape. The genus at large comprehends the following species:—1. The bread fruit tree, or jaquier, that forms the object of this notice.—2. The Jaca, or Jaquier of the Indies.—3. The Heterophyllous Jaquier.—4. The shaggy or hairy Jaquier, *(hirsula)* of Rheede; and, 5. The Jaquier of the Philippines. The flowers are monoie, or male and female on the same tree. The inhabitants of Amboyna call it Kullusutan; those of Java and Madura have named it Soccumbidjikaler, and the natives of Otaheite designate it by the word Ooroo. The stock or trunk, which contains a milky juice, rises to a height of more than forty feet. The wood is soft, yellowish, and light. The trunk is upright, the bark greyish, and in cracks or crevices; its cimex, or top part, ample and round, branches numerous and wide-spreading; the lower ones reach out horizontally. The leaves are pointed, petiolated, very large, and deeply tinged, on each side, with a beautiful green. Each leaf about eighteen inches long, and from eight to ten broad. The flowers are succeeded by a savoury fruit, the size of a Cantaloup melon, with a rough surface or coating, and a thick skin; the kernel or food is at first white, but yellowish in its advance to maturity. The fruit grows either adhering to the trunk, or on the large branches, seldom on the smaller ones.

As for the country of the Rima, it has been long known in the Moluccas, in the Marian Isles, and in Celebes; but it seems to have been little appreciated in those climates. It is only since the discovery of the Eastern Islands, in the South Sea, that this tree, or rather a variety of it, has risen to celebrity. The bread fruit tree grows abundantly in those islands, and constitutes a principal resource of the people that visit them. It has been transplanted by the Europeans into some of their West India possessions, and it appears to thrive as well as on its natal soil.

The fruit is not the only part of this vegetable which is useful. With the *liber*, or second bark, the Otaheitean composes the *pagnon*, or cloth, that en-

velopes his body; with the trunk he forms his habitation, as also the funeral morai that is to contain his remains. Some parts of it are used in the construction of his pirogue, or war canoe. The leaves serve for table linen and utensils; over them, he lays his broiled pork and other food, prepared by the branches set on fire. Lastly, from a thick juice, which oozes from the bark when cut into, he makes a sort of glue, that helps certain substances to take very brilliant colours.

Girdled Pear Trees.—We examined yesterday two pear trees, growing in the garden of Judge Morris, in this borough, which to us present a great natural curiosity; the facts in relation to which, we should have been led to doubt, had we not been an eye-witness to them. The trees in question are well grown, have always been thrifty, but with one or two slight exceptions had produced no fruit. In the summer of 1830, two years since, the proprietor judging these trees worthless and only cumbering the ground, determined to destroy them; and for this purpose caused them to be girdled, which was done by cutting a strip, each way, entirely round the tree to the depth of about two inches, thus entirely interrupting the circulation of the juices between the bark and the wood. The trees, however, to the astonishment of all, did not die; but on the contrary, in the spring following put forth full of blossoms, which were succeeded by a large and well grown crop of fruit. The same trees are again, at this time, well set, and bid fair to produce another abundant yield. The only perceptible indications of decay in these trees, if such they may be considered, are, that they appear rather deficient in foliage, the leaves not appearing quite as large or numerous as upon the adjoining trees which had not been girdled. The trees which were left unmolested continue barren, while the means used to destroy those singled out for destruction have proved effectual in rendering them thus far unusually productive. Can horticulturists explain this matter to us?—*Wellsborough, (Penn.) June* 2, 1832.

The Great Catalpa Tree.—This celebrated tree, that has stood over 40 years in front of the residence of the late Major Babcock, in Washington street, is now in full bloom, and is well worth the walk to that delightful part of our city, to view its beauties. It seems one solid mass of elegant flowers. This tree is one of its species, and was about the first that was introduced into New England. It is surprising that more of the kind are not cultivated. The best time to view it is either in the evening or quite early in the morning.—*Hartford Mercury, July* 9.

Geological Changes of the Earth.—The variety of fossil substances, many of them marine productions, which are found in mountains remote from the sea, are undeniable proofs that the earth's surface has undergone considerable changes, some of which indicate an alteration of climate not easily to be explained. The remains of animals inhabiting hot countries, and the marine productions of hot climates, which are frequently found in high northern latitdes, lead to a suspicion that the earth's axis was at a very remote period differently inclined to what it is at present. The tropics now extend twenty-three degrees and a half on each side the equator; but if they were extended to forty-five degrees, then the arctic circle and the tropics would coincide, and thence would arise inconceivable variations in the productions and phenomena of the earth. All this would form a very amusing speculation to a person possessed of a terrestrial globe, who might tie a thread round it to represent the tropics at forty-five degrees of elevation.

Zoophites, or Plant-Animals.—These wonderful productions are so denominated on account of their existing in the shape of plants. They are very numerous, and the greater part of them have so great a resemblance to vegetables, that they have generally been considered as such, although the horny and stony appearance of several of the tribe declares them, at first view, to be of a widely different nature from the generality of plants. In others, however, the softness of their substance, and the ramified mode of their growth, would lead any one not acquainted with their real nature, to suppose them vegetables. The hard, horny, or stony zoophites are in general known by the name of corals; and of these several distinctions are formed, either from the structure and appearance of the coral or hard part, or from the affinity which the softer, or animal part, bears to some other genus among soft-bodied animals, or *mollusca*. The zoophites may be therefore said to unite the animal and vegetable kingdoms, so as to fill up the intermediate space.—*Book of Knowledge.*

The Banian Tree.—On the banks of the Narbudda, in the province of Guzzerat, is a banian tree, supposed by some persons to be the one described by Nearchus, and certainly not inferior to it. It is distinguished by the name of the Cubbeer Burr, which was given to it in honour of the name of a famous saint. High floods have, at various times, swept away a considerable portion of this extraordinary tree; but what still remains is nearly two thousand feet in circumference, measured round the principal stems; the over-hanging branches, not yet struck down, cover a much larger space; and under it grow a number of custard-apple, and other fruit-trees. The large trunks of this single tree amount *three hundred and fifty*, and the smaller ones *exceed three thousand:* each of these is constantly sending forth branches and hanging roots, to form other trunks, and become the parents of a future progeny.

Key-hole Cats—Angora Cats.—Much curiosity was awakened a few months ago, by the publication in The Farmer, of a letter from Commodore Porter to Mr. Skinner, relative to *Key-hole Cats*, and many enquiries were addressed to us on the subject. The following extract of a letter from the Commodore, which has been politely handed to us by Mr. Skinner, explains the mystery. The pair of Angora cats which the Commodore intends to send to Mr. Skinner, will be an acquisition to the country.

"I presume the cats you allude to, for which Constantinople is said to be so famous, and which you denominated 'Key-hole cats,' can be no other than the cats of Angora, a city and district of Anatolia, and about two hundred and fifty miles from this place.

Since I have been in Constantinople, I have only seen one of these cats, and it is in my possession. I say *it* for it is of the neuter gender, and every way qualified to accompany the notes of the celebrated Madam Cat-alina. I never knew a cat, whatever the gender, which had sweeter notes than this of mine.

"It is a beautiful animal, as white as the driven snow, of double the size of our common cats, eyes as brilliant as the chamelion's, hair as soft as silk and long as the finger, a ruff still longer around the neck, and a tail like an ostrich plume, flat like that of the flying squirrel, and in its springs used for the same purpose. It is the tamest and most docile animal I ever met with, and as playful as a monkey. I have never seen it catch a rat; but my house, which the day before I brought it home, was swarming with rats and mice, is now entirely free from them. A general migration took place, and the next morning my neighbor killed in his yard eleven at a single shot, which he said came from my premises.

"I have spoken for a pair that have not been disqualified from propagating their species, and shall endeavor to get them to you."—*American Farmer.*

New Ornamental Tree.—The seed mentioned by Commodore Porter in the following extract of a letter to Mr. Skinner, has been received and handed to the Editor of the American Farmer for cultivation. We have the pleasure of being able to state that it has vegetated, and the plants are now growing finely. According to present appearances the tree is a species of acacia; the seeds are exactly like those of that tree, as are also the young plant. From the name furnished us by the Commodore, we can get no clew to the botanical name. On the label of the box it is marked *Guul-aghadj*-Rose Tree. The only name we can find any way resembling *guul-aghadj*, is the Arabic name of the Cadia purpurea, *gadhy*. The *Cadia purpurea* is an Arabian plant, of the habit of acacia, and somewhat resembling it; grows six to eight feet high, with large purple and white flowers. If the tree sent by the Commodore is the Cadia, we fear that it will not stand the severity of our winters, as that is a hot-house plant. We shall be greatly obliged to any one who can furnish the botanical name of this plant. If we succeed in rearing these trees, Mr. Skinner will have a considerable number for distribution next spring.

Commodore Porter and Mr. Skinner are entitled to the thanks of their country for their exertions to introduce new and valuable articles into our fields and gardens —

Extract of a letter from Commodore Porter, to J. S. Skinner, Esq. dated

Constantinople, Feb. 16, 1832.

I now send you what will be a curiosity in the United States, the seed of the Guul-aghad or the rare tree. It is the most beautiful thing of the kind I have ever seen. It grows to the size of an ordinary orchard apple tree, throws out many branches extending horizontally, and affords a most delightful shade. It is literally covered with flowers of a dark pink color, and from the smell, though not from any resemblance, I should suppose it to be of the family of the Acacia, which is of the nature of the locust. This tree in no way resembles the locust, except in the seed pod and the seed. The bean is precisely that of the locust bean, and if the planting and treatment should be the same as would be practised in the planting and treatment of the locust, you cannot go far wrong. The tree is a rare tree here, and I was informed by the Armenian from whom I obtained the seeds, that it was a native of Persia. Its name in Turkish is Guul, (rare) Aghadj, (tree) and is pronounced Goolagadegh.—*American Farmer.*

The Camera Lucida, the invention of the late Dr. Wollaston, and much improved by Mr. Dollond, is one of the most valuable instruments that can be used by travellers, or tourists, or indeed any persons desirous of making perfectly correct outlines of landscapes, or any other objects whatever, who have never been taught to draw. The sketches drawn by Captain Hall in North America were made by this instrument; and the very lines, traced on the spot, were transferred to the plates; "in order," as Capt. Hall observes, "to preserve, as far as possible, the character of truth which the mechanical accuracy of the camera lucida communicates to its work, even in hands but little familiar with the management of the pencil."—*Loudon.*

Varley's Graphic Telescope differs from the camera lucida in acting by reflection, whereas the camera acts by refraction. The graphic telescope is capable of being used as an ordinary telescope. Some ideas of its wonderful powers in assisting correct dilineation may be formed, from the circumstance of its having been employed by Mr. Horner, in making the original sketches for the panorama of London, from the summit of the cross on the dome of St. Paul's, now exhibiting in the Colosseum.

We have thought it advisable to direct the attention of young gardeners to this instrument, and the preceding one, in order that such of them as are sent out as collecting botanists may not fail to take one with them, and make sketches of whatever they see interesting. Had a certain young man, that we could name, recently returned from South America, had one of these instruments, and made use of it, he might have sold his sketches and his notes for what would nearly have paid his expenses. We trust this hint will not be lost.—*Ib.*

The Profession of a Gardener, and the natural Love of Gardening.—"On observing the pale-faced mechanic hurrying away to his morning labours, we almost regret, with Rousseau, that great cities should be so numerous; that mankind should be congregated in such mighty masses; and think, not without pain, of the many long hours the artisan must pass in the tainted atmosphere of a crowded manufactory. But how different are our feelings on seeing the gardener resuming the badge of his trade, or the plough-boy harnessing his well-trained team! The toils of both may be hard, but they are, at the same time, surrounded with every thing that is rural and inviting. The grass springs and the daisy blossoms under their feet; the sun tells them by his shadows how the day waxes or wanes; the blackbird serenades them from every hedge or tree; and they enjoy, moreover, the inexpressible pleasure of seeing Nature in her fairest forms, rewarding most munificently their skill and industry. How does the citizen sigh for such scenes;

and how soon, when his fortune is made, does he hurry away from the confines of a second Babel, to sink the merchant in the gentleman farmer! Few who are so fortunate strive to rivel the handicraftsman by making their own shoes, or any other needful article of dress; but all, yes all, who are able, strive to trim their own gardens, and superintend the cultivation of their own property."—*London Magazine.*

An American Lady Gardener.—When Lafayette called at Fredericksburg previously to his departure for Europe, in the autumn of 1784, to pay his parting respects to the mother of Washington, he found her working in the garden, clad in domestic-made clothes, and her gray head covered by a plain straw hat. The venerable matron saluted him kindly, observing, in reply to the encomiums which Lafayette had lavished upon his hero, and paternal chief: "I am not surprised at what George has done, for he was always a very good boy."—*Ib.*

EDUCATION.

COMMON-PLACE BOOKS.

We extract the following from an article in the Annals of Education. Those young farmers in particular, who will attentively read it, and adopt the practice recommended, will, in the course of a few years, find themselves abundantly repaid. We scarce know of any method better calculated to exalt the intellectual character of agriculturists.

The question has been much discussed among scholars, whether the practice of taking notes of books, as they are read, and of transcribing the most striking passages, is an aid, or an obstacle to the acquisition of knowledge. Some have openly condemned it as pernicious, while others have as effectually discountenanced the plan, by representing it, as at best, but a mechanical auxiliary, which it is unworthy of genius to employ. But it may be easily shown, that the current of authority, and the weight of argument, are with those who consider Common Place Books, if judiciously used, as one of the greatest aids in making extensive acquirements. This is a practical subject. It concerns the best mode of collecting and retaining the greatest amount of knowledge; and the individual who adopts the best system in conducting his scientific pursuits, will derive the same advantage from it, as the farmer who adopts the best plan in the management of his agricultural affairs. If they be really as useful, as they are represented by some writers, too much pains cannot be taken to diffuse a knowledge of their importance, and to persuade students, at least, to make the experiment.

Common Place Books are not intended as substitutes for labor. They require, on the contrary, an additional amount, both of mental and manual industry. They are not designed for those, who run over the most profound achievements of the human intellect, as they do over the pages of a fashionable novel—nor for those, who expect to reach the summit of 'the Mountain of Science' *per saltum*—nor for those, who use mechanical helps to relieve the mind from the pain of exertion. They are designed for such as are willing to pay the price of learning—*labor*. They are meant only for the hard student, who employs whatever aids he allows to himself, solely to invigorate and expand his mental powers—who regards his piles of manuscripts as the means, not as the end, in the cultivation of his faculties. The waterman does not intermit his vigilance, because his bark is furnished with sails and oars to help him on.

The opinions of illustrious men, upon this question, are deserving great consideration, because they are presumed to have practised what they recommend. It is quite fair to attribute some measure of their fame to the mode of study which they adopted. Man has been called a creature of imitation. The truth of the remark is strikingly illustrated by the proneness of men, not only to acquire the habits and manners of those with whom they associate, but, to seize upon, and imitate, almost any of the practices of those whom the world calls great. The courtiers of Alexander affected his wry neck; and the chivalry of England imitated the husky voice of the gallant Hotspur. But if we can find any intellectual habit, which is common to, and highly recommended by, several men, eminent for their genius and acquirements, there will be little danger of its being unworthy of imitation.

Gibbon was a prodigy of erudition. The number of references in his great work is immense. Judge Story observes, in one of his published orations, that probably no library in the United States contains all the books from which he obtained his vast fund of learning. The following extracts from his own memoirs of his life and writings, will show in what light he regarded Common Place Books. 'My abstracts of each book often branched into particular essays, and I can still read, without contempt, a dissertation of eight folio pages, on eight lines of the fourth Georgic of Virgil.' 'I persevered in the useful method of abstracts and observations, and a single example may suffice, of a note which almost swelled into a work.' 'I filled a folio common place book with my collections and remarks on the Geography of Italy; and inserted in my Journal many long and learned notes on the insulæ and populousness of Rome, the social war, &c.' The MSS. collections of Gibbon afforded the means for the accomplishment of his gigantic enterprise. Locke—the Father of the modern system of Mental Philosophy—not only recommended the use of Common Place Books, but actually published his ideas of the best mode of keeping them. Swift says somewhere in his works that he had written upon almost every subject, before he sent a single paper to the press. A distinguished foreigner makes this strong remark, 'I never knew a person, who kept a Common Place Book, that did not finally arrive to some kind of eminence!'

The great Pothier, who published a work on Jurisprudence, which has been translated into almost every civilized language—and which, for clearness and beauty of expression, for vastness and variety of learning, and for methodical arrangement, is surpassed by no treatise in any language, adopted this practice as soon as he commenced his studies, and persevered in it through the rest of his life. A short extract from an eulogy pronounced at his decease, by M. Le Trosne, in the University of Orleans, shows us its influence upon his success. 'He had scarcely attained his majority, when the extent of his acquisitions was perceived at the palace. When he had to study any subject, he composed a treatise upon it,

being persuaded that the best, and perhaps the only method of becoming master of a science, is to discuss it in writing. The necessity of *accurate conception* in order to produce *accurate expression*, of arranging his ideas in proper order, of contemplating them in their various aspects, habituates the mind to application and accustoms it to accuracy and method; an advantage which can never be acquired by reading, however frequently repeated. If the noted aphorism of Lord Bacon be true, that reading makes a full man, conversation a ready man, and writing a correct man, then it must follow, that the practice of reading and writing together is calculated to develope and perfect two of these qualities at once, viz. fulness and correctness. Nor is the other wanting. Mr. Brougham, in his inaugural address at Glasgow,—and who will be fool-hardy enough to dispute this great master of extemporaneous and written eloquence—has a sentiment like the following. An individual who is ambitious to speak well, must write much.

I pass on to cite some American authorities. In his admirable essay on indolence and intellectual dissipation, Mr. Wirt has the following remarks addressed to a young lady. 'If you have time for it, read authentic history, which will show you the world as it really is; do not read rapidly and superficially, with a view merely to feast on the novelty and variety of events, but deliberately and studiously, with the pen in your hand and your note books by your side, extracting as you go along, not only every prominent event, with its date and circumstances, but every elegant and judicious reflection of the author, so as to form a little book of practical wisdom for yourself.' A gentleman of the same profession, and now one of our most eminent statesmen, remarked to me some years since, in speaking of common place books, that no man could make great acquisitions without them. I had once the pleasure of forming an acquaintance with a young man, now, alas! no more—who, at an early age, astonished every one by the variety and extent of his attainments, by the vigor and maturity of his mind, by his habits of application, and by the amazing powers of his memory. His manuscripts and note-books would make a small library. A President of one of the New England Universities, whose name I must be allowed to conceal, always reads with a pen in his hand. He declares that he has derived incalculable advantage from the mere mechanical use of the pen, and that his experience of its benefits warrants him in giving the practice his warm recommendation. It will be at once admitted that these are high authorities, and ought to be reverently regarded.

The principal argument against the use of common place books is, that they injure the memory—that when observations are committed to paper, the author is apt to relinquish all further care of them. It is unquestionable that they may be thus *misused*. He, who takes no pains to keep what he has read and written in remembrance, and does not occasionally refresh his memory by re-perusal, has performed the task of a copyist—not of a student.

* * * * *

One of the most obvious benefits of this practice, in addition to those which have been already mentioned, is, that it brings together from various and distant sources, every thing relating to the same subject. New views, facts, or illustrations, of a theme which seem to have been exhausted, may sometimes be found in a place, where they are least expected; and a well kept note book becomes a Cyclopedia, limited or copious, according to the industry of the student and the range of his researches. This is no despicable aid to the memory, which is thus relieved from the burden of retaining unimportant particulars, which are only useful occasionally, but which ought to be committed to writing for safe keeping, till called for. It is equally important, that the memory should not be overwhelmed, and that our knowledge should be suddenly available. By means of note books, both objects are accomplished.

* * * * *

Another benefit, and the last I shall notice, is, that it creates *habits of observation*. The practice is utterly hostile to that dreamy indolence, with which, I fear, too many excellent works are perused. There are moods of mind, when even an entertaining work may be read, and the reader shall yet not be able to recall a single sentence it contained. In some men, this mode of reading has become a habit. A gentleman, who had travelled considerably in Enrope strongly urged this advice upon a nephew, who was about to spend some months in Paris—to make it an invariable rule to write something in his Journal every evening—for he had observed that the young gentlemen who began to neglect their Journals, began, at the same time, to neglect every other object of their journey—to be less observant of men and things—less regular and less industrious.

It may be expected, that some suggestions will be made as to the best mode of keeping common place books. Locke's plan seems to be too complicated and artificial. The student who has any system in his studies, will find no difficulty in managing his common place book. The great fault of those who begin to keep them, is, that they are too sparing of paper—a wretched piece of economy, where time and knowledge are at stake.

This article has been already extended far beyond the limits I had assigned myself, but I cannot draw it to a close, without suggesting two or three practical rules. Let your abstracts be copious. Set down nothing at haphazard. Review your manuscripts at least once a year. A still more important recommendation, one which will forever restrain the student from their misuse or abuse, is not to make abstracts and comments as he reads—but to peruse a certain amount attentively, and then, from recollection, to transfer what is worthy of preservation to his Common Place Book.

Education in France.—The French Society for the promotion of Elementary Instruction in Paris has furnished 164 new schools with books, slates, &c., to the value of from 50 to 350 francs each. A manual for those who have just commenced teaching has also been prepared; and it is proposed to decree medals to such teachers as distinguish themselves in their profession.

Seminaries for teachers exist at Strasburg, Bourdeaux, Bourges, St. Foix (Gironde,) Mende (Isere,) Chatillon upon Loire, Dieu le Fit, and Glais. Five of these were established by French pastors. There is also a department for teachers in the college of Verdun.

Let us consult the statistics of *crime*, and the accounts they present to us of the state of instruction. In 1829, out of 7,373 *accused* persons, 4,523 could neither read nor write; 1,947 could read and write imperfectly; 729 could read and write well; 170 had received a superior degree of instruction. The proportion is not the same for the two sexes. Of 100 men accused, 43 can read; among the women the proportion is but 21 to 100. The proportion varies also according to crimes: 41 out of 100 can read, among those confined for crimes against *persons*; only 38 out of a hundred, among those accused of crimes against property.

The proportion varies also according to age. Among the accused of 20 years old and upwards, there are found 40 to 100 who can read; among those younger, there are but 35; but these results vary much in the different departments of France.

Sweden.—In Sweden the interest in popular education is constantly increasing. A recent law, requiring a school to be established for teachers, has been complied with. According to the latest accounts, there existed 193 schools for mutual instruction, attended by 12,712 children.

Russia.—In Russia, schools for teachers have been established in the provinces, destined to raise up instructors for the towns and villages of this vast empire.

A law has been passed in Livonia, requiring, in every place of 1,000 inhabitants, the establishment of a school, where children may learn to read and sing. From thence they go to the parish schools, where they are taught writing and other useful branches of knowledge.

Poland.—In 1808, a law was passed, requiring the establishment, in each village, of a primary school for instruction in religion, morals, reading, writing, arithmetic, and the system of weights and measures, and the arts of life. Each school was to have a popular library, suited to its local wants. The inhabitants of the cities and villages were united into societies for the support of schools; each person paying an annual tax for that purpose. All the children between the ages of six and eleven years were required to attend. Before the Poles attempted to break their chains, the seeds of education had begun to germinate. Schools for primary teachers had been organized, and Sunday schools opened in the capital, and in the provinces, for the children of laborers, which were attended by 1,600 scholars.

Germany.—In Germany, where for more than half a century the interests of popular education have excited a lively solicitude, many distinguished minds and generous hearts have been employed in presiding over this education. Numerous tracts have been written upon the subject, dictated by an enlightened philosophy. Many celebrated men have published a great number of works upon this subject. The whole of Germany is provided with schools. Every where, children of both sexes, without exception, receive instruction. In Prussia, from a population of about 10,400,000 inhabitants, 1,600,000 children attend the elementary schools. This is one sixth of the whole population. We find the same proportion in Swabia and in the little principality of Sigmaringen. Sunday schools and evening schools exist every where. Here the scholars who have quitted school, continue to come in their intervals of leisure, to cultivate their minds, and acquire useful knowledge. Popular libraries are multiplied in every place, replenished with good books. Seminaries are established for the instruction of teachers. The regulations of their school are wise, and conceived in a spirit eminently liberal.

Switzerland.—The Swiss, who offer to Europe an example so remarkable of the strength of patriotism and of philanthropic associations, have made great progress in the branch of improvements with which we are now occupied. Every where they labor with a remarkable emulation to raise up instructors, to extend the sphere of elementary instruction, and to exert a good influence over those children who have quitted the schools. In Switzerland, as in Germany, musical instruction is considered an essential part of popular education. It is introduced into every school, and occupies an important place among the exercises. The societies watch carefully over the state of music in the schools. A celebrated composer, Nageli, of Zurich, has devoted his talents to this object. Whole choirs of children, in each village, execute, in perfect time, religious and national songs; these exercises infuse into their young minds, elevated feelings of morality and patriotism.

Italy.—Though the greater part of Italy remains indifferent to the subject of education, yet some states form an honorable exception. Tuscany contained, the last year, 20 schools of mutual instruction for boys, and 3 for girls.

The enlightened prince, who governs the duchy of Lucca, convinced of the importance of a good education to all classes of society, and of the superiority of mutual instruction, has ordered the immediate establishment of four schools, two for boys, and two for girls, on this principle, in the duchy of Lucca.

Sicily, Malta, and Greece.—Mutual instruction was introduced into Sicily in 1818, and is rapidly extending. It was also introduced a long time ago into Malta by the Society at London.

Schools are every where rising up in Greece. We can reckon at least 111 schools, attended by 7824 scholars in the Peloponnessus and the islands of the Archipelago.

Turkish Empire.—Among the Turks, there generally exist schools near to every mosque. Almost all the men, and the greater part of the women, know how to read and write. But the pupils read and write very little, except the Alcoran. The rod is their only encouragement to study. It still remains to introduce into the education of this great portion of the human family, useful knowledge and social manners. Many children have recently been brought to Paris to receive a European education. Egypt has already given an example of this kind to the Ottoman empire, in sending a number of scholars to Paris and London to be initiated into the arts and sciences of Europe. Many of them have finished their education at Paris, and returned home, prepared to publish in the language of their country, the most useful French works. A periodical journal is published at Cairo.

Africa.—Senegal, for the last fifteen years, owes to France, in part, the germs of instruction which have been sown there, and which are spreading into the interior of Africa. A school for mutual instruc-

tion at Saint Louis counts from 100 to 150 pupils. Among those which have been formed since 1816, one third was composed of black Wolofs. Several have been sent to France to finish their education.

Austria.—The present monarch of Austria has done much to diffuse useful knowledge throughout the empire. In the various provinces of Austria, exclusive of Hungary and Transylvania, embracing a population of about twenty millions of souls, there exist 24,931 national schools of various grades, containing 1,193,552 pupils, who are taught by 10,252 ecclesiastical teachers, and 21,801 lay teachers and their assistants. This is about *one* in *ten* of the whole population. Besides this, 300 deaf and dumb pupils are receiving instruction in different parts of the country; some of them gratuitously.

THE FARMER.

July 31, 1832.

EDITORIAL CORRESPONDENCE.

LETTER XXVII.

Gardens of Albany.—Having, in my last, made some remarks on the natural scenery of Albany, I shall now devote a few minutes to the improvements relative to ornamental effect. My object in introducing this subject is, to exert my mite of influence in directing the attention of those who build houses and lay out gardens, to the principles of landscape scenery—a subject of vast importance, and one destined to beautify both city and country, to refine the taste and promote the happiness of our fellow-citizens. Closely connected with the study and practice of ornamental and landscape gardening, is the preservation and increase of our forests.

On going up Washington street, which commences at the rise of ground near the Capitol, the first garden I visited was that of Edward C. Delavan, Esq. The area, including that occupied by the dwelling, consists of about three acres. It is almost exclusively devoted to an ornamental or pleasure, in distinction from a kitchen garden. It is well stocked with a great variety of flowering plants, and a choice selection of fruit trees—all kept in the finest and neatest order by his gardener, Mr. M. Murphy. No dwelling and garden in Albany strike the eye of those who pass more forcibly, and none receive greater encomiums for the beauty and splendor of the floral display. The fence adjacent the street, and front of the garden and dwelling, is neat and ornamental, of very open work, exposing to full view the entire garden. However gratifying this may be to those who promenade the streets, yet it is, I think, contrary to the end and design of a private garden.

The first and primary object in preparing a garden, is the pleasure and enjoyment of the proprietor himself and family—and next, the gratification of his friends who visit him. That he and his family may enjoy his garden at all times and hours when so disposed, it is very desirable that it should be wholly excluded from the intrusive gaze of others. But since much of our pleasure is derived from the means of pleasing others, and from the consciousness that our fellow-creatures know at least some of the sources of our enjoyments, it would seem, on these principles, that one design of an ornamental garden, and indeed of every other pleasing object, is the gratification of our acquaintances and the public. Hence I conclude, that a private garden, after having first secured all the requisite retirement for the family, should be so arranged that those who pass by may see sufficient to excite admiration and pleasurable emotions; for, it must be recollected, that the value of any thing and its power to afford us pleasure, depend almost wholly on the estimation in which it is held by others. Care should be taken, however, not to expose too much; for when mankind are conscious that they have seen the whole of any beautiful object or exhibition, much of its attraction is gone—curiosity not only leaves the breast, bnt a reaction of emotion takes place, producing within us something void and unsatisfactory. Mr. Delavan's garden is defective in this respect. The open work of the inclosure deprives it of one of the greatest beauties of a garden—retirement;—and enables those who may survey it from the street to feel that they have seen all its floral attractions, and know all the rural sources of Mr. C.'s enjoyment. It should expose to view sufficient to please, excite admiration, and convey the impression that much more remains to be seen and enjoyed, but only by the fortunate owner, and those whom he pleases to invite within.

Illustrative of these remarks, I will mention the following anecdote. At the Ball of the New-York Horticultural Society at Niblo's Garden, a man who, on looking through an aperture of the inclosure, no larger than a gimblet-hole, but sufficient to bring into view a portion of all the varied and combined beauties, splendors and charms of the occasion, suddenly exclaimed, 'It is heaven! It is heaven!' and was for scaling the inclosure to have a more full view. If this individual could, in common with others, have seen the whole interior, he would have gone away with far different emotions—with a lower estimate of the actual enjoyments of the privileged company.

If I should hazard an opinion on the laying out of Mr D.'s garden, I should say that his gardener, Mr. Murphy, to whom is committed the entire control, has made too small divisions or parterres for the extent of the grounds—too many for unity of design, and to obtain easy and graceful lines in the serpentine walks. Mr. M's taste in erecting some ten or fifteen little houses for birds, cannot be approved—they militate

against the dignity of the establishment. One, or two or three at most, would have been sufficient; and it is very questionable whether any one should be seen from the street as a prominent object. The flying and singing of birds about a dwelling, add very greatly to the charms and delight of the scene.

The garden of J. T. Norton, Esq., which I had not time to visit, and which is nearly opposite to Mr. Delavan's, affords the idea of retirement, and if deficient in its exterior show, does not display sufficient, although all that is seen, bespeaks very favorably of what may be expected. That of D. B. Slingerland, Esq. Lydius-street, combines retirement with a display in a very pleasing manner. A favorable idea of the extent and beauty of his garden, is obtained from the street; and on being introduced within, the order in which it is kept, and the number, variety, and beauty of the plants, and the choice selection of fruit, clearly entitle it to be considered among the first in the city.

My next will close what I have to say for the present on the gardens of Albany.

Albany, June 9, 1832.

American Institute.—By the following circular it will be perceived that the American Institute of New York, intend to hold their fifth annual fair on the 9th of October. It is very desirable that the state or progress of agriculture and the household arts, should be well represented. All those who take pleasure in promoting improvements in the primary and fundamental pursuits of life, should use their influence to have exhibited every article that is calculated to raise the standard of excellence in this pursuit. Specimens of new or superior kinds of grain, grasses, implements, machinery, and articles of domestic manufacture, should be sent. We anticipate considerable competition among the fair sex, in American silk, and cocoons of silk worms.

We hope the young ladies, in both city and country, will embrace this opportunity to exercise their skill and taste in drawing, by exhibiting paintings of our best fruit, most beautiful native plants, flowers, and landscape scenery, connected with designs for rural architecture.

AMERICAN INSTITUTE.

New York, July 4th, 1832.

Sir,—The Fifth Annual Fair of the American Institute will be held in the city of New York, on Tuesday, the 9th of October next, and continue three days.

Premiums consisting of Diplomas, or Medals, will be awarded as usual for such articles of American production, as shall be adjudged superior, either in material or workmanship.

As each Fair has heretofore manifestly surpassed those which have preceded: it is hoped, the one announced for October next, will present still more decisive evidence of the advancing condition of our agriculture, our manufactures, and the arts.

Your attention in giving publicity to this Circular, and aiding the efforts of the Institute, to effect a very general display of ingenious and useful fabrics, will promote the cause of national industry, by affording ocular demonstration, that our skill and perseverance, under adequate protection, can compete with any, and all other countries. The variety and perfection of the productions, which have on former occasions been displayed at the Fairs of the Institute, and the rapid reduction of prices manifested at every successive exhibition, has already satisfied many, who before doubted, of our ability to compete with older and more experienced nations; and it is confidently believed, that future exhibitions will attract and open the eyes of others, who now undervalue our resources, and who do not realize the perfection of our native improvements, because they have never been spread before them.

Such ingenious and useful machinery, as may be conveniently transported, and put in operation, will give interest and spirit to the occasion.

Each article should be labelled, with the name of the manufacturer, or producer, and with the agent's name, and number, in this city.

The design is to inform buyers where they can supply themselves with the best articles. In this way, by means of former Fairs, many obscure, but excellent workmen, have obtained permanent and profitable customers, who, while *they* have been better served, have at the same time rewarded and stimulated American skill and industry.

Articles entered for premiums, must be delivered as early as Monday, the 8th of October.

More particular notices will be published previous to the Fair. For any other information which may be desired, apply to either of the Managers.

MARTIN E. THOMPSON,
SAMUEL FLEET,
WARREN CURTIS,
SILAS BROWN,
WM. J. VAN BUSKIRK,
JAMES B. MURRAY,
THADDEUS B. WAKEMAN,
JOHN A. SIDELL,
CLARKSON CROLIUS, Jun. } *Managers.*

N.B. Editors of papers friendly to national industry, are requested to publish this Circular.

Botany.—The botanist follows nature into her most retired abodes, and views her in her simple state, and native majesty. He beholds the wonderful prodigality of nature, even in the composition of the common daisy, which consists of more than two hundred flowers, each including its respective corolla, germ, pistil, stamina, and seed, as perfectly formed, as those of a complete lily or hyacinth. And he sees this diversity as fully illustrated in the different sorts of grass, a term which, although it commonly conveys only one notion to the vulgar mind, and one object to

the undiscerning eye, consists of five hundred different species, each formed with infinite beauty and variety. The botanist enjoys a pleasing, an innocent amusement, most agreeably combined with a love of rural retirement, and which gives a new and growing interest to every walk and ride, in the most delightful season of the year. Indeed man cannot contemplate the vegetable creation, without recalling the idea of beauty, sweetness, and a thousand charms that captivate the senses. The perfume of the rose, and the stately magnificence of the forest, successively catch his attention and delight him.

Activity.—A distinguished writer says, it is of great importance to train ploughmen to habits of activity and diligence. In some districts of England they are proverbial for the slowness of their steps. Their slow drawling movements they teach their horses; whereas if they were accustomed to a quicker pace, they and their horses would move with as much ease, and accomplish much more work. It is common to see teems make some half a dozen stops in turning about; and in crossing the field, in light ploughing, to move with the slowest possible step, and stop every time the plough struck a stone as large as a robin's egg.

The Season *in the vicinity of Greenwich, Ct.*—A correspondent of the New York Farmer, under date of July 14, writes that "Fruit trees of all kinds in this vicinity, are in a thriving condition, and promise a rich reward to the cultivator. The trees have sustained little or no injury from the long and cold winter. Apples, pears, and peaches in particular, are very promising. Strawberries and cherries have scarcely been known in greater abundance than in this season. Berries generally have been and are plentiful. The field crops are good, but very backward, owing to the long continuance of cold in the spring. Many farmers did not begin to plant corn until the 25th of May. Mowing has just commenced.

"Your readers in this quarter like the plan of bringing out the Farmer monthly much better than in the weekly form."

Evaporation.—The quantity of water contained in, or rather, evaporated from soils, also has a great effect upon their temperature. It is well known that when solids become liquid, or when liquids are converted into aeriform substances, they absorb heat from surrounding bodies; hence it is plain that the greater the evaporation of water from the surface of soils, the greater the quantity of heat that will be carried off by such evaporation.—*Genesee Farmer.*

Remarks.—Although caloric or heat is carried off by evaporation, yet the capacity of the soil for caloric is increased. Water is a bad conductor, especially when heated from above. The more water, therefore, in the soil the less heat, and the greater the evaporation, the greater are the retentive powers of the soil for caloric. The practical conclusion, therefore, is that farmers should stir up, drain, and otherwise manage a wet soil, that its properties for retaining caloric may be increased.—*Ed. N. Y. Far.*

Apprentice Farmers.—The idea of going to learn a farmer's trade is not yet sufficiently familiar to the people of this country. If farmers would advertise for apprentices, they could be obtained. Some would find it to their interest to take youth from 12 to 18 years of age, and allow them their board for their labor and instruction; others could afford to allow something more than their board; others again, whose reputation was high, could demand some fifty or one hundred dollars a year, besides their labor. We know there are thousands of farmers in the Middle and Western States, who would like to send a son for one, or two, or three years, into some of the best agricultural districts of Massachusetts, New York, and Pennsylvania, if conveniences were provided.

Gardeners' Work for August.—This is a favorable month to kill weeds—to prevent their seeds from falling into the ground by burning them. Those who wish for ornamental plants, should remember that this and the two following months are favorable for sowing the seeds of perennial plants. Novices in gardening will remember that the seed of annual plants are sown in the spring, and of many biennial and most perennial plants, in the latter summer and fall. Those who are desirous of ornamenting their grounds at a little expense, should look over the catalogues of our seedsmen, and make a selection. A few six-pennies will supply a considerable variety.

Beans.—Early dwarf kidneys may be planted the beginning of this month for pickles.

Cabbages.—The seeds of Early York, Early Dutch, Dwarf, or Sugar Loaf, may be sown, and in September and October transplanted in a warm border. They will make tender fine eating greens in the first months of winter.

Peas.—Those who are desirous can sow peas early this month, first soaking the seed for five or six hours in water.

Radishes.—The White Turnip, or Black Spanish Radish, may be sown at any time in this and the succeeding month.

Shallots, Allium ascalonicum, are of the onion or leek family. Large quantities are sold in the New York markets in April and May. They are propa-

gated by bulbs, which are planted the last of this month and the first of next.

Seeds of all kinds should be gathered as fast as they ripen. Occasional walks should be taken in the woods and fields to obtain the seeds of wild flowers and ornamental plants. This is a healthful and pleasant exercise.

Corn Salad, or Fetticus seed, may be sown this month and in September.

Celery, Cardoons, and Endives, should be blanched, or prepared for blanching.

Irrigation.—Frequent hoeing and watering will prevent the injurious effects of drought. It is very probable that stirring the ground in the afternoon, or about sun-set, is more beneficial in dry weather, than it would be if stirred in the heat of the day. If the fresh cool soil is turned up towards evening, it will serve to condense the moisture that rises from beneath, and that is in the portion of the atmosphere coming in contact with it. If this is a fact, we should like to know if ploughing and hoeing in the heat of the day is beneficial? Will R. M. W. give us his ideas on this subject?

Farmers' Work for August.—After the harvest is well and entirely secured, it is very commendable in those farmers that can afford it, particularly those that are young, to spend a few days or weeks in travelling into other districts, to make observations and inquiries. All who do this will find themselves eventually benefitted. They should travel into districts the most celebrated for improvements, and into those that they have made the least progress. Fathers should encourage their sons to make these annual peregrinations. It should be in anticipation, one of the stimuli to labour cheerfully, and a respite from the 'sweat of the brow.' Before the young farmer starts on his tour, he should minute down as many subjects for inquiry as he can think of; and every question put on any one of them, will lead to some scores of others. Thus he will very soon find that the field of information is wide. He will return home gratified with the progress he has made in husbandry, and resolved either to adopt the improvements he has seen, or to vary and combine them with his own practices, so as to adapt them to his own location and circumstances. Much good sense, judgment, and caution, are requisite in effecting any change in the management of farming operations.

Pure Water for Domestic Animals.—This is the season when decompositions and putrefactions rapidly take place; consequently, neither cattle, horses, nor fowls, should be allowed to drink stagnant water. Many vegetables, particularly potatoe tops, impart unwholesome and poisonous properties to water in which they are allowed to remain for any considerable time. It is no argument in favour of allowing them to drink stagnant and impure water because they are fond of it: for, it will be recollected, that the higher order of animals—even man—acquires such an unnatural and vitiated taste, that he becomes fond of such poisonous substances, as tobacco, opium, and ardent spirits.

Sheep, and all other domestic animals, should be provided with sufficient shade and drink to keep them cool and comfortable.

Turnips should be carefully hoed. If they should be too thin in some places, and crowded in others, by careful management they may be transplanted.

Roads.—Attention should be given to roads on and in the vicinity of a farm. Repairs made in this month facilitate transportation in the succeeding and more busy months. Farmers ought to remember that roads, canals, and rivers, have been called the veins and arteries of a country, and that the *circulation* should be easy and free. Every farmer should Macadamize the roads on his farm as fast as possible, and use his influence to have the public roads brought under the same improvement. This may be gradually done by filling up the ruts and wet miry places with small and broken stones.

Draining.—Those who have land that may be improved by drainage, should improve the months of summer, to clearing out and making new drains. No part of farming, perhaps, demands more judgment and geological information than that of successful draining.

Pruning.—This is considered, by many, the best month for pruning all kinds of trees. Forest trees, particularly, should be attended to. Summer is thought to be preferable to winter pruning, as the wounds heal more directly. Some horticulturists prune at all times of the year; but it is, we believe, generally customary in this country to prune in the spring. Mr. Lang, an English writer, recommends pruning in every month of the year, except from February to the middle of July. Reason and experience support frequent and slight pruning. The smaller the limbs that are cut off, the less will be the injury to the tree.—(See page 226, vol. 5.)

Manure.—Great exertions should be made to increase the compost heap. Scattered substances suitable for dung is the gold dust of a farm.—(Page 243, vol. 5.)

Live Stock.—Select out the lambs designed for breeders. Great study and care should be given to this subject. Swine ought to be put in a thriving condition.

Potatoes should be kept clear of weeds. If the potatoes have advanced too far to use the hoe or the

plough, the weeds had better be pulled by hand, and conveyed to the barn yard, or compost heap in the field. It is thought to be as injurious to potatoes as it is to corn, to plough or hoe them after the fibrous roots have extended themselves in every direction.

Grass Lands.—If your meadows are rather hide-bound, and have become rather unproductive, and you find it not convenient to break them up, scarify them, and give them a top dressing of manure. The fall pasture will repay you.—(Page 61, vol. 57.

Number of Implements.—It may be said that the farmers of this country generally, are not sufficiently supplied with the requisite number and quality of implements, to conduct their farming operations with the greatest economy, and with the necessary expedition. Their scythes and cradles are often out of order, or are not of the best quality. A poor worn-out plough is used for many purposes, when a cultivator would do the work in half the time, and in a better manner. Hoes are used in digging potatoes, when, perhaps, an instrument of three tines would be more expeditious, and render the potatoes more marketable by having no cut ones among them.

Care should be taken, however, not to expend too much for a great variety of implements, as is often the case with young and wealthy farmers. It is troublesome to keep a large quantity of farming implements in order. In buying a new article, it should be considered whether it will save time, lessen labor, or do the work in a better manner. And in the next place, its simplicity of construction, its durability, its cost, its adaptation to execute the work intended, and to your circumstances.

Oxen and Horses.—For the last twenty or thirty years the use of horses has been taking the place of oxen. We still, however, hear it asserted that many a farmer devotes all the profit of his farm in supporting his horses—that their expense is disproportionate to their income—that oxen would be more profitable were it fashionable to use them. We wish some one would set the subject in its true light.

Improved Live Stock.—Among some of the finest imported stock which we have seen, is that of Mr. Bement's of Albany. He has a very beautiful Devonshire bull. His hogs too, are of an excellent breed. Those in want of a good cow, heifer, or bull, will do well to look at Mr. Bement's.

Cuttings.—M. Saul writes to the Editor of the New York Farmer, that it has been proved by several experiments, that cuttings taken from fruit-bearing branches, will produce fruit sooner after grafting than those taken from non-bearing branches.

New Method of Raising Early Potatoes.—M. Saul, of Lancaster, England, in a letter to the Editor of the New York Farmer, observes that a new method of raising early potatoes has been proved in that neighborhood. It consists in planting them in currier's shavings, which are almost equal in warmth to any hot-bed.

Soil for Potatoes.—Loudon says, the best soil for potatoes is a light, fresh, unmixed loam, where they can grow without manure. Here they always have the best flavor. In a wet soil, they grow richly, and produce watery tubes, infected with worms and other vermin. To a poor soil, dung must be applied, littery dung will produce the earliest and longest crop; but mellow dung, rotten leaves, or vegetable earth, will least affect the tubers.

The above remarks apply to England; and we do not perceive that much variation is required for this country, except that a soil a little more moist and retentive is the most congenial to the potatoe.

Insects Destroyed by Hot Water.—Water nearly or quite to the boiling point has been tried by Mr. Beattie, as stated in The London Magazine, to destroy the scaly insect. The water was applied with a painter's soft brush, and was destructive to these and other insects, and not injurious to the tree.

Sheep.—A writer in the Columbian Sentinel attributes mortality among sheep, so generally complained of by farmers, to scanty pasturage in summer and fall. When he kept his sheep in short pasture, he lost twenty to thirty per cent. in winter and spring; and when he put them to a more liberal growth of grass, his loss has been comparatively nothing: and he finds they are more easily and economically kept in winter, when they have been in a thriving condition all the summer and fall.

Impressions of Leaves.—Miss S. C. of Long Island, practices the following method of fixing the impression of leaves on paper: Rub some sweet oil on the paper, and then smoke it black with a candle or lamp; lay the under side of the leaf on the smoked paper; put another piece of paper on the leaf, and gently press or rub it with your finger, until every part of the leaf comes in contact with the oiled and smoked paper; and, finally, press the leaf on another piece of paper on which you would impart the impression. The specimens accompanying these directions were accurate and delicate impressions. This method can be of very considerable service to those who are desirous of taking the form of leaves and flowers, with a view of studying botany. By it a very good substitute for a herbarium could be obtained.

Culture of the Mulberry.—*Laudable Act.*—L. A. Spalding, of Lockport, in the true spirit of patriotism, has authorised the editor of the Niagara Courier to announce, that he will pay a premium of $25, to any citizen of that county who shall possess, in 1834, the best nursery of 1000 trees. The editor of the Courier offers a premium of half that sum for the second-best.

The Season in England.—M. Saul, of Lancaster, England, in a letter of May 29, 1832, to the Editor of the New York Farmer, says, "Our winter has been remarkably fine, with very little frost. New potatoes are now selling in our market at two pence per pound; and most likely next week they will be one penny per pound. Fine gooseberries are selling in the market for tarts, at two pence per quart. We have a great show of bloom or blossoms for apples, pears, &c."

Rensselaer County Horticultural Society.—The exhibitions of this society have, we learn by the following, been suspended, on account of the cholera. We hope returning health and prosperity to our country, will be to the Society what showers are to long parched vegetation.—*Ed.*

A meeting of this Society took place at the Court House, July 7, Richard P. Hart acting as President.

The articles exhibited were all of a very good quality; it is to be regretted the contributors were not more numerous, and as it is supposed the alarm about the cholera is one cause of the small attendance, it was thought advisable to suspend the regular meetings of the Society for the present; when they are resumed hereafter, due notice will be given.

Mr. Barton of Lansinburgh, presented a bowl of superior Gooseberries. Mr. Albert P. Heart of Troy, three splendid bouquets of cut flowers, many of which were rare and beautiful. Mr. Alexander Walsh of Lansinburgh, fine Cauliflowers, two of which weighed 3 lb. 10 oz. each, a plate of Twice-bearing, and Red Antwerp Raspberries, 8 quarts very fine Green Nonpareil Beans, a basket of superior Potatos, Black, Red, and White Currants, a bowl of Gooseberries, something out of the common order, one dozen of them weighing together 5 ounces.

A branch of Ring Willow, *Salix annularis.* A beautiful new Chinese Mulberry, *Morus multicaulis.* A spike of fine flowers from metrosideros lanceolatus, [Callistemon lanceolatus?] also 34 varieties of choice cut flowers.

Mr. D. Norton of Lansinburgh, a basket of fine Gooseberries.

Mr. Charles Oakley of New York, transmitted a bundle of Horticultural Addresses, and a paper containing seed of the Sheraz Tobacco, which were distributed to the members; he will please accept the thanks of the Society.

The Sheraz seed produces a plant quite celebrated at Constantinople and other eastern markets, for its delicious perfume; for particulars of which, and other valuable seeds collected in Persia and Turkey, by order of Sir Henry Whitlock. See New York Farmer, page 244.

Temperate Laborers.—All the inquiries we hear made by farmers for laborers, are for those who are strictly temperate. Total abstinence appears to be a *sine qua non.*

The Devon Cow.—We very recently knew a Devon cow that had furnished a pretty large family with all the butter, cream and milk they wanted, for twelve years, and in the mean time furnished calves that sold for twelve hundred dollars. She is dead now—and even at her death, we believe, she added fifty to a hundred dollars to the above sum, in the shape of a thirteenth calf. She was one of the gentlest of her kind, and we are sure that the death of no being less than human, could have caused more sincere regret to her immediate friends, "and a large circle of acquaintance." It was not altogether the profitableness of this cow that gained her the esteem of all who became acquainted with her. There was a certain dignity of demeanor, placidity of countenance, and friendly sociability of deportment, that commanded the respect, won the esteem, and secured the friendship of all. She was the "observed of all observers," no matter how numerous her companions might be; and, even to the day of her death, though time had laid a heavy load upon her back, even her daughters, unrivalled in personal attractions by all else, were unable to deprive her of the compliment that every beholder bestowed—"*what cow is that?*"—*American Farmer.*

Budding.

TO THE EDITOR OF THE NEW-YORK FARMER.

Mr. Editor,—As the season for this operation is at hand, a few directions for performing it may not be uninteresting to your readers. On some smooth part of the stock intended for budding, draw a cut horizontally, which cross about the middle, with another cut in a perpendicular direction. These cuts should be only through the bark, being careful not to wound the wood. Where the cuts cross each other, raise the bark gently to receive the bud; the bud should be of the last year's growth, and the knife is put in about half an inch above the bud, and brought out about an inch below. The wood should then be separated, being careful not to injure the eye of the bud. This bud should be immediately inserted in the stock, and bound close to the wood, with woollen yarn or basswood bark. In about three weeks it will be united, when the string may be taken off. The bud will remain dormant until the next spring, when the top of the stock should be taken off, just above the bud, it will then grow, and the top of the stock will in a short time furnish a handsome nursery plant of the kind you wish. This operation should be performed between the middle of July and the last of August. If the bud fails, the stock may be grafted the ensuing spring. R. M. W.

Middlesex, July 17, 1832.

Southern Crops.—We are sorry to learn from a gentleman just arrived from New Orleans, that serious apprehensions were felt there for the fate of the sugar crop. The severe winter almost totally destroyed the ratoons, especially those of two years' standing, which had universally failed, and had in many cases been ploughed up, and corn planted in their place. The young canes looked well until the beginning of May, when a drought set in, and had continued till he left (15th June.)

On his way up the Mississippi, no rain fell till he reached the Ohio, when there was a few partial showers. That river had fallen so low, that it was with great difficulty they reached Wheeling, after being transferred from a large boat to small ones in succession. A general complaint of want of rain prevailed in the different States on both sides the river, and it was said the crops in consequence would be very short, every thing having suffered except the cotton plants, which looked well. This was also the case from Wheeling to the Alleghany mountains. On this side of the mountains, there had been several fine rains, and both wheat and corn looked much better; but of oats there will be scanty crops every where.

We should add to this, that copious rains have since fallen at New Orleans, and along the traveller's route. *Philadelphia paper, July* 13.

Agricultural Society in Saratoga County.—At a meeting of a number of citizens of the county of Saratoga, held at Saratoga Springs, on the 4th day of July, pursuant to public notice,

Resolved, That John H. Steele, Henry W. Delavan, and Philip Schuyler, be a committee for the purpose of reporting, at an adjourned meeting, to be held at 12 o'clock on Wednesday, the 17th *day of October* next, at the house of Philip H. McOmber, at Ballston Spa, a Constitution and Bye Laws, for the organization of an *Agricultural* and *Horticultural Society*, and the selection of officers.

Resolved, That a Fair be held at the same time and place, for the exhibition and sale of domestic Animals.

MILES BEACH, Chairman.
PHILIP SCHUYLER, Secretary.

Washing Salads.—Independent of the good effects of washing salads, cabbages, and the like, in water in which salt has been dissolved, we should suppose it would render them less liable to speedy putrescency. The salads should be put in salt water for a few minutes, sufficiently long to detach or kill all insects, and then rinsed in clear fresh water.

To Destroy the Red Spider.—Mr. Kendall, in the Gardener's Magazine, directs six ounces of soft soap to be put into one gallon of rain water, and made into a fine lather. This must be carefully applied to both sides of the leaf.

Soot.—This is esteemed by gardeners as one of the best manures, particularly when dissolved in water, and in this state applied to asparagus, peas, and a variety of other vegetables.

To Preserve Beans and Peas.—Peas and beans may be preserved through the winter by scalding them in a strong syrup of sugar and drying them—after which they should be put in a bottle and corked close. If each part of this process is conducted with care, it will be found when they are cooked that they have lost but little of their flavor, and that they will form a great addition to our vegetable dishes during winter. —*Genesee Farmer.*

Bottled Gooseberries.—A correspondent says, "A bottle of green gooseberries were closely corked, laid away in the cellar in 1829, and forgotten until the latter part of this spring—a period of nearly three years. On examining them, they proved to be in fine preservation, and made a most excellent pie."—*Genesee Farmer.*

Tar used as a Manure.—Berkely, Bishop of Cloyne, who wrote *A Treatise on the virtue of Tar Water*, carried his predilection to tar so far as to use it as a manure; for Bennett, one of his successors, describing the episcopal residence at Cloyne, in a letter to Dr. Parr, says, "There is a pretty winding walk of nearly a quarter of a mile long, adorned for great part of its length by a hedge of myrtles six feet high, planted by Berkeley's own hand, which had each of them a large ball or tar put to its roots: the evidence of this fact is beyond contradiction."—*G. M. Lynn, Sept.* 5, 1828.

Furze Tops as a Manure.—Farmers are cutting large quantities of small Irish furze for manure. It is found that furze, well trodden under the feet of cattle, and mixed with straw, or other materials of the kind, is excellent manure, especially for potatoes, as it keeps the ground open.—*Irish Agr. Report in Scotsman of Feb.* 20, 1830.

Destroying Moles in Meadows or Gardens.—Collect earth-worms, kill them, and mix them up with the powder of *nux vomica.* After the mixture has remained in a heap twenty-four hours, take the worms and place one or two here and there in the routes and holes of the moles.

To Poison Rats and Mice.—Mix a pound of plaster of Paris powder thoroughly with an equal quantity of oatmeal. Place this in a dry place, within reach of the rats; they will eat of it eagerly, and by the humidity contained in their stomachs, the plaster of Paris will "set," and form an indigestible hard mass, which will occasion death.—*Col. Macerone* in *Mech. Mag.* vol. xvi. p. 14.

Mr. Audubon.—Mr. Audubon has just returned to Philadelphia in excellent health. His arduous excursions during the last nine months, in the Carolinas, Georgia, East Florida, and the Tortugas, have been richly repaid. During this comparatively short period, Mr. Audubon has, by his own gun, acquired nine species of birds, altogether new to the United States. We have seen these rare birds: it has been our good fortune, also, to see the inimitable drawings he has made of them, with the interesting landscapes so peculiar to the southern country, and which vie with them in beauty and interest. Besides these, Mr. Audubon has brought with him about two thousand specimens of rare southern birds, in the highest state of preservation, together with an immense quantity of shells and plants. It is impossible to say too much in praise, either of the talents or perseverance of this unrivalled naturalist.—*U.S.Gaz.*

Death of Birds.—The Banstable Journal says: the great mortality among birds in many parts here has generally been attributed to the unprecedent coolness of the present season. This is probably the primary cause, but the more immediate one, we believe to be, the great scarcity of the insects on which they feed. We are led to adopt the latter opinion, because the greatest mortality has been observed to prevail among that species which lives principally upon insects, as swallows, martins, &c. In Sweden and Norway, swallows survive the winter, and it is said that in this country they have been taken in a torpid state from hollow trees during the severe cold of winter. If such be the facts respecting the habits of the swallow, it is not reasonable to suppose that the weather has been the sole cause of the death of such immense numbers.

The account which we gave the week before last, respecting the great depredations which the birds are making in cornfields in this vicinity, shows that they find great difficulty in obtaining food. The boldness with which they commit their ravages is surprising. In some instances they have pulled up whole fields in despite of scarecrows, dressed as fantastically as Petruchio for his wedding. Some of the birds which commit these depredations are not of the species of which farmers usually complain.

Edible Birds' Nests.—Among the interesting subjects which still remain open for research, are the habits and constitution of the *Hirundo Esculenta*, the small swallow which forms the edible nests, annually exported in large quantities from Java and the eastern islands for the Chinese market. These birds Governor Raffles observes, in his history of Java, not only abound among the cliffs and caverns of the south coast of the island, but inhabit the fissures and caverns of several of the mountains and hills in the interior of the country. From every observation which has been made in Java, it has been inferred that the mucilaginous substance of which the nests are formed, is not, as has been generally supposed, obtained from the ocean. The birds, it is true, generally inhabit the caverns in the vicinity of the sea, as agreeing best with their habits, and affording them the most convenient retreats to which to attach their nests; but several caverns are found inland, at a distance of forty or fifty miles from the sea, containing nests similar to those on the shore. From many of their retreats along the southern coast, they have been observed to take their flight in an inland direction, towards the pools, lakes, and extensive marshes, covered with stagnant water, as affording them abundance of their food, which consists of flies, musquitoes, gnats, and small insects of every description. The sea, which washes the foot of the cliffs, where they most abound, is almost always in a state of the most violent agitation, and affords none of those substances which have been supposed to constitute the food of the esculent swallow. Another species of swallow in the island of Java, forms a nest, in which grass, moss, &c. are merely agglutinated by a substance exactly similar to that of which exclusively the edible nests consist. This substance, from whatever part of those regions the nests be derived, is essentially uniform, differing only in the colour, according to the relative age of the nests. It exhibits none of those diversities which might be expected, if, like the mud employed by the martin, and the materials commonly used in nest-making, it were collected casually, and applied to the rocks. Were it to consist of the substances usually supposed, it would be putrescent and diversified.

The Yanar, or Perpetual Fire.—Capt. Beaufort of the English navy, F.R.S. among his interesting details of his survey of Karamania, or the South coast of Asia Minor, describes this curious phenomenon; and from his account the following particulars are extracted:—"Having perceived during the night a small but steady light among the hills, this was represented by the inhabitants as a *yanar*, or *volcanic light;* and on the following morning curiosity led him to visit the spot. In the inner corner of a ruined building he came to a wall, so undermined as to leave the aperture of about three feet in diameter, and shaped like the mouth of an oven. From this aperture the flame issued, giving out an intense heat, but without producing the least smoke on the wall; and although several small lumps of caked soot were detached from the neck of the opening, the walls were scarcely discoloured. Trees, brushwood, and weeds, grew close around this little crater; a small stream trickled down the hill in its vicinity; and the ground did not appear to feel the effect of its heat at more than a few yards distance. Not any volcanic productions were to be perceived near to it; but at a short distance, lower down on the side of the hill, was another hole or aperture, which had apparently been at some remote period the vent of a similar flame. It was asserted, however, by the guide, that, in the memory of the present race of inhabitants, there had been but one such volcanic opening, and that its size and appearance had been constantly the same. He added, that it was never accompanied by earthquakes or noises; and that it did not eject either stones, smoke, or noxious vapours; but that its brilliant and perpetual flame could not be quenched by any quantity of water. At this flame, he observed, the shepherds were in the habit of cooking their food."

Insects and Reptiles, though seemingly the most insignificant of animated beings, have an important part assigned them to perform in this universe.—Though the duration of their life be but as a moment, and their strength, when compared with that of the larger animals, as nothing, yet their power is often irresistible. The strongest animal which treads the earth is frequently driven to madness by the endless irritation these insignificant beings produce; the sun himself is deprived of his light by the shading of their wings, and every leaf that can give support to animal life is often swept, at once, away by their devouring jaws; neither has the ingenuity of man, which subdues the strongest, and reclaims the most ferocious animals, enabled him to devise the means of defending himself from the devastations of these active invaders of his rights. His very existence itself, on many occasions, depends upon his speedy withdrawing beyond the sphere of their active incursions.

If their power be thus irresistible, their utility is not perhaps less conspicuous on this globe. Man has ever been able, on some occasions, to make them become subservient to his will. The bee collects

honey for his use; the moth, under his influence, affords him silk; the cantharides an active drug; the cochineal insect the most brilliant of his dyes. Even where they are totally beyond his control, they minister indirectly to his wants. Under the form of eggs, maggots, grubs, caterpillars, aureliæ, and flies, they furnish food to innumerable creatures, who augment his comforts in a thousand ways. But it is as the scavengers of this universe that these puny beings become chiefly salutary to man, and all animated nature. Without their unceasing aid in this respect, the air would become quickly tainted with the most noxious effluvia, which would soon put an end to animal existence. To obviate this, the benificent Creator hath decreed, that a numerous department of this class of beings, while in their reptile state, shall be unceasingly employed in searching for and devouring every thing that has once lived, and is now tending to decay. Under this state of degradation these creatures are doomed to labor for a time with unceasing assiduity: and that nothing might divert their attention from this important business, even for one moment, the distinctions of sex are withheld from them while in this state; nor does it seem that they have a single perceptive faculty, unless it be that of striving to preserve their existence, and allay their insatiable appetite for food. Having at length, however, with the most patient assiduity, performed the menial task that was assigned them, they are then called, by the bounty of the Creator, into another and superior state of existence, in which they are destined to perform a part the most opposite which can be conceived to that they formerly acted. The unsightly grub, after a temporary death, awakens into new life, and deserting the clod it lately inhabited, and nauseating its former food, sports in the sun beam, and sips the balmy dew; nor does the butterfly, now arrayed in the most gorgeous attire, seem to claim the most distant alliance with the ugly caterpillar from whence it sprang. The attraction of sex seems to form the chief business of this period of life; food is neglected as if unnecessary, and its life is devoted to amorous dalliance alone. Having soon provided a numerous prodigy of voracious labourers, it leaves this transitory scene to make room for those who are destined to supply its important place in the universe.

Plants.—In plants there is an infinite diversity; some require a long succession of ages to bring them to perfection, while others attain their full maturity in a few hours; some are of immense magnitude, while others are of an inferior stature, descending by gradation till they become too minute to be cognizable by the senses. The mighty baobob of Senegal, described by Adanson, whose stem is 75 feet in circumference, stands a stately monument on the face of the earth for many thousands of years; while the mushroom, which it much resembles in form, springs up in a day, perfects its seeds, and is withered tomorrow; and when we carry our views still farther, into that immense profound of minuteness, which has but of late been partly laid open to us by the invention of the microscope—into the class of mosses, which are in some measure cognizable by the naked eye—and still fa ther, into the more minute class of plants denominated *mould*, which, even in those of the largest species, are too small to have their parts cognizable by the naked eye, and which, when viewed by the best microscopes, discover a series of existences diminishing by a regular gradation, like stars in the galaxy under the best telescopes, till they are lost in the infinity of minuteness, leaving every reason to believe, that, could the magnifying powers of our instruments be augmented a thousand fold, we should still find ourselves as far from discovering the termination of this series of infinite dimunition, as we were at the commencement of our imperfect survey. The world that we see, therefore, seems to be but a very small part of that which exists; our feeble optics are capable of taking in scarcely a point of that universe which surrounds us; and our imperfect understandings can scarcely obtain a glimpse of that infinite power and wisdom which regulates the whole. Among this infinity of objects, however, we can clearly perceive the most perfect regularity and order prevailing every part; and that all the operations of nature proceed with unvariable steadiness to effect the purposes for which they have been designed.

To Correspondents.

We thankfully acknowledge the reception of a communication from Mr. Saul, of Lancaster, England, on Heating Green Houses by Hot Water. We shall give it an insertion as soon as the drawings accompanying it are engraved.

Among those to whom the New York Horticultural Society sends a copy of the New York Farmer, is the Chevalier Soulange Bodin, of the Royal Institute of Fromont, in France. He writes, through his agent in Havre, to Dr. Pascalis, 'that although he has reduced the number of Journals to those with which he exchanges, still he is willing to pay for the New York Farmer, if they can be regularly received.' We have forwarded a complete set of the Farmer since January last, and shall continue to send the numbers as they are published. Should M. Bodin receive duplicates, he can make a return of duplicates of his own work, or an equivalent in some of the productions of his own country.

We should feel under obligations to any of our correspondents and subscribers to send us seeds of our native forest trees, ornamental shrubberies, or herbaceous plants, and, when convenient, young living plants, or even dried specimens of the plants. We wish to send them to correspondents and friends in foreign countries, where American plants any way distinguished for utility or beauty, are highly esteemed. Any considerable presents of this kind will be a favor, and for which we will very cheerfully send the Farmer for one or more years. A foreign correspondent writes for a few cuttings of some choice seedling apples. We should be pleased that our friends would enable us to comply with his request.

W. Mitchell, Printer, 265 Bowery.

AGRICULTURE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Rotation of Crops.

That crops deteriorate when continued in the same field successive years, is a fact well known to the observing farmer; and yet it is never sufficiently regarded in practice. The Hollanders do not permit flax to grow in the same field oftener than once in 10 or 12 years, upon the principle that it requires this time to restore to the soil the specific food required for the flax, and which had been exhausted by the preceding crop. Good husbandry requires, that not only two crops of the same species, but of similar character, say wheat, rye, oats and barley, should not succeed each other, as these in a measure exhaust the soil of like properties. Judge Peters laid it down as a fundamental rule, that two crops of grain should never be grown in succession in the same field. Our farm crops, as regards rotation, may be divided into three classes, viz. grains, grasses and roots, and these again subdivided; and I would let no two of any one class follow. If manure is applied in an unfermented state to the roots and Indian corn, which are all hoed crops, weeds will be destroyed, the manure incorporated with the soil, and its advantages to the hoed crops be a clear saving.

But the object of penning this article is to impress upon *gardeners* the necessity of alternating, to ensure good crops. It often happens that particular portions of the garden are assigned to the same vegetable for successive years; and as this portion of ground generally receives an annual dressing of manure, the importance of alternating is not so apparent. Without due reflection, I adopted this too common practice, and had my onion quarter, beet quarter, melon quarter, &c. which have been planted with those vegetables almost exclusively for eight or ten years. Notwithstanding I manured highly, I was astonished that my crops every year grew worse, till from this very inferior quality, I was led to reflect upon the cause, and the consequence was, that I became convinced, that the principle of alternation, which I knew was beneficial in farm operations, should be applied also to the garden. I planted my onions, beets, carrots, &c. on new ground, although the former, I had understood, should always be continued on the same plat. The result of the change is, that these vegetables have nearly quadrupled in product.

Grisenthwaete maintains that the same crop may be taken successively from one field; provided we know the specific food which such crop requires, and supply it in sufficient quantity annually. He says the specific food of wheat is sulphate of lime, and animal matters that afford nitrogen; that of barley common nitre (saltpetre,) that of sanfoin, clover, &c. gypsum, &c. But until we become so learned in chemistry as to know the specific food which each requires, it will be discreet to pursue the course which nature suggests, that of alternation. B.

TO THE EDITOR OF THE NEW-YORK FARMER.

Effects of the Past Winter.

It is a singular fact, that while many tender foreign plants stood the severity of last winter as well, or better than usual, such as the Aylanthus, Catalpa, Magnolias glauca and macrophylla, &c. most description of fruit, which are deemed hardy, suffered more than during many of the preceding years. The destruction has been extensive among pears, peaches, plums, cherries, quinces and native grapes, and partial among the apples. Either the fruit blossoms, branches, or the entire tree above the surface of the ground, were killed. In the latter case, the bark was found to be killed upon the bole or trunk, sometimes generally, at others in circles, at about the height of the surface of the snow in winter.

How are we to account for this uncommon fact? My hypothesis is this: That the foreign plants, being more sensitive to cold, were divested of their leaves by the early frosts, the sap had become concentrated, or reduced in volume, by the cold of the autumn months, and the plants assumed their winter habit before the winter cold set in; and that the snow which soon after covered the ground, sufficiently protected their roots. Our indigenous trees, or those more hardy, were kept in a partial growing state by the mild weather of autumn; and their sap vessels were fully distended with juices, when the cold commenced; and that they suddenly became frozen, ere it is condensed by a gradual and natural process, which instead of diminishing, added so to its volume as to burst the sap vessels, and destroy vitality. And I doubt whether it was the severity, so much as the long continuance of intense cold, which proved so injurious. The thermometer did not fall lower than 20 degrees below zero with me; and this degree of cold is not uncommon in our winters. But the long continuance of severe cold was unprecedented in my memory. From the first of December to the 17th of January, a period of nearly fifty days, the mercury did not appear above the freezing point but about two hours, and then but one or two degrees. Man is capable of sustaining (and the remark will in a manner apply to other animals) a variation of temperature from 40 degrees below, to more than 200 above zero, but only for a time. The extremes of either heat or cold, soon overcome and destroy the vital principle, if unremittingly applied to the animal system; I infer that the same laws hold good in regard to plants.

Another fact is worthy of notice; plants suffered far more severely upon sandy, than upon clay soils; indeed most of the mischief was done upon the former. The term *warm*, applied to sandy soils, does not convey a correct idea of its properties. It would seem to imply that such a soil is least sensitive to cold, and will afford the earliest vegetation; such is not the fact. It is true it becomes soonest warmed by the genial rays of a vernal sun; and it is equally true, when warmed it soon becomes cold, from the absence of those rays. It receives caloric more readily than any other soil, and parts with it more rapidly. Other circumstances being similar, it is therefore most liable to late and early frosts. It is not so well adapted to wintering plants as a soil more compact and tenacious, on account of the frequent and sudden transition of temperature, and I know it is not so well adapted for early vegetation in spring. B.

Chess or Cheat.

As a philosopher, I fully subscribe to the learned opinion, that wheat does not turn into chess; but as a practical farmer, I entertain a different opinion. I have repeatedly sown clean seed wheat, on ground

which could not contain dormant chess, and have sometimes gathered a clean crop, but more frequently one greatly adulterated with chess. If chess grew only from its seed, it would be equally distributed, which has never to my knowledge been the case. It abounds in the borders of the field, around stumps, and in moist places, where the ground has become most compact, and where the seed was most likely to have been but partially covered. A communication of Mr. Ransdille, in a late Genesee Farmer, has strengthened the opinions resulting from my practice. He found it in abundance on a new burnt fallow, where none had been sown, principally about the borders and stumps, where the seed wheat had remained uncovered. A neighbour sowed, in 1830, twenty bushels of clean seed on a stiff clay soil, and gathered about as much chess as wheat, to wit, 84 bushels. Wheat has naturally its seminal and its coronal roots; the first springing from the seed directly, and the other from the crown of the plumule, at the surface of the ground: where the seed is superficially covered, or the ground hard or wet, the latter may not be produced, or the former may be destroyed. My observations would lead me to suppose, that in either of these events, the organs of the plant would be imperfect, and that chess would be the result. I have long meditated a course of experiments to solve this question, nor have I yet abandoned the project. B.

Albany, August, 1832.

Irrigation.

Sir,—I have observed in your paper and in others, some remarks of Mr. Spofford, on irrigation, which though generally correct, are, I think, in some measure erroneous. He seems to have drawn erroneous opinions from the experiments of Van Helmont and Boyle. It was not the water with which their plants were furnished, that afforded the food that increased their size, but their principal food was derived from the atmosphere. The carbonic principle in a gaseous form, forms a very considerable portion of the atmosphere. The woody parts of vegetables are principally composed of carbon, as is proved in coal pits. This principle when combined with potash forms various carbonates of potash; when combined with lime, it forms the carbonate of lime or chalk. It is the principle food of plants. The plants absorb it, and assimilate it, by means of their leaves, and thus tend materially to purify the air, by depriving it of the carbonic principle, which would otherwise be poisonous to animal life. Water is composed of oxygen and hydrogen, and contains no carbon; and can therefore furnish very little or no food to plants. Animal manures are chiefly composed of carbon, these being buried in the earth are slowly resolved into this elementary food, and is taken up by the capillary vessels of the plant. Such I take to be the correct doctrine on this subject; that water is of primary importance to vegetables, is beyond all dispute, but furnishes very little if any food; and manures can be of little use, as stimulants to the roots of plants. Yet, we know that some plants grow entirely under water, and never come to the atmosphere, such as sea weed and many aquatic plants. There seems to be a difficulty in accounting for their growth, for which I am at a loss to account.

Middlesex, July 10th, 1832. R. M. W.

TO THE EDITOR OF THE NEW-YORK FARMER.

Soot of Ammonia.

"But almost all the Sal Ammoniac, which circulates in commerce is brought from Egypt, where it is extracted by distillation from soot, by the combustion of the excrements of such animals as feed on saline plants."—*Chaptal.*

Sir,—In the Genesee Farmer, of the 14th of July, I notice an extract from the New-England Farmer, concerning soot as a manure, which I deem erroneous, although quoted from high authority. First, I believe common soot does not contain a particle of ammonia. Secondly, that ammonia is injurious, not beneficial, when applied to vegetables. Ammonia is only afforded by such soot as is produced by the combustion of animal excrement, and that in order to yield it, these animals must be fed on marine plants. In this opinion I am supported by Chaptal, and most other authors that I have read on this subject; any person may be convinced of the second position, by applying a little ammonia to any vegetable: however diluted, I believe it will prove injurious; that the empyreumatic oil and carbon may operate as manure is very certain; but ammonia, I believe, is poisonous to vegetation, and vital air forms no part of the vegetable structure, but is evaporated by most plants.

Yours, &c. R. M. W.

July 21st, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Destruction of Weeds.

Mr. Editor,—It is said that "a stitch in time saves nine;" this remark, though true in most of the concerns of life, is never more applicable than in the case of the farmer. A weed cut in due season, before it disseminates its seed, must obviously save much labour. If suffered to ripen and scatter its seed, it is soon multiplied almost to infinity, rendering the farm unsightly and unprofitable. No good farmer will ever suffer a weed to ripen on his premises. The thistle, the sourdock, and many other weeds, exhaust land more than a crop of wheat; and if suffered to ripen and scatter their seed, it is the work of a life to eradicate them. They are easily destroyed at the proper season, and I think this work should never be neglected.

Yours, R. M. W.

July 18th, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Wire Worm.

Sir,—Much injury has been done to the Indian corn and other crops in this vicinity, by the wire worm. I should think that nearly one-fourth of the corn crop is destroyed this season, and every season more or less injury is done by them.

The evil is of much magnitude with us. Our richest and best lands suffer the most, and are often rendered unproductive for years.

For the purposes of giving the facts that have come under my notice, and of calling the attention of farmers to the subject, and the publication of such experiments and observations as they have made, I send this communication.

1st. The wire worm is from a half to one and a quarter inches long, of small diameter, hard, yellow, and I believe the larvæ of one species of the elater.

2d. They seem to attach themselves first to grass lands, that have been long down, when the soil is rich and mucky, and are noticed by the grass turning yellow, and the farmer generally says that his "meadow is running out" and must be ploughed.

2d. Such land, when ploughed and planted to Indian corn, soon shows the depredations of the worm. They sometimes commence eating it as soon as it germinates, perforating the chit and first shoot, at other times not until the first hoeing, boring through the stalk which soon becomes pale and droops.

4th. The after crops, either wheat, oats, flax, peas or potatoes, are injured, often destroyed by them.

5th. They are sometimes seen moving in a body through the field, destroying every thing; at other times they scatter promiscuously, leaving part of the crop untouched.

Now I would ask the practical farmer, what experiments he has made? What agents used for their destruction? and with what success? S. C.

Vernon, August 1st, 1832.

The Farmer.

The great bulk of mankind must always get their living by cultivating the soil. The character of farmers, therefore, settles the character of the community in general. The profits of farming are slow but sure.

The good farmer grows rich simply by the increased value which he every year gives to his farm. His buildings and fences are yearly growing better; his debts are also growing less, and his business more easy of management; so that by the time of life in which care becomes burdensome, he generally finds himself in a situation to travel the down-hill of life with a good degree of comfort.

The poor farmer, on the other hand, is the reverse of all this. His affairs, so far as they depend on his management, grow worse and worse. His fixtures decay, and are patched up so as to do for the present; his soil is impoverished; his debts increase; his cares and perplexities multiply; and he finds himself, when old age unfits him for the burden; obliged to mortgage or sell his farm, and to live on the pittance which his property has gained in value by the rise of prices around him.

The greatest calamity to a farmer is a heavy debt. A fire is nothing to it, because the flames do not exact interest.

"The eye of a master does more than both his hands," but it must be an eye wide awake. There is a difference between eyes and no eyes.—*Portmouth Paper.*

Botts in Horses.—In the American Farmer, I have read, with interest, several remedies for the botts. It is certainly desirable, if possible, to obtain some specific, which may be relied on to expel those terrible insects when actually formed in the stomach, as well as to prevent their formation. As one of your correspondents observes, there is no doubt that salt mixed weekly in the food of horses, would assist as a preventive; and so will saltpetre and asafœtida occasionally administered. Currying and cleaning the hair of horses is not only necessary for the good appearance, but also for the general health of our favourite animal.

Of all the remedies I have used and seen used to expel the botts, fish brine is decidedly the most efficacious and sure. I have saved several valuable horses after they were actually stretched on the ground, and apparently in the last agonies.

Let a quart of salt fish brine be administered at once; and the dose be repeated in an hour afterwards unless previously there be symptoms of relief. The medicine will show its effects in copious discharges from the relived animal, which will be accompanied by quantities of dead botts. e will not only be relieved, but will be improved in his health and condition. It is to be observed, by the bye, that all owners of horses would do well to give them occasionally in their food, and sometimes in draught, small quantities of fish brine.—*American Farmer.*

TO THE EDITOR OF THE NEW-YORK FARMER.

The Reflecting Farmer.

No. I.

Mr. Editor,—There are few employments in life which furnish more subjects for reflection, than those of the farmer; and, if rightly understood, there are none, I think, that are so well calculated to improve the mind and to mend the heart. We will suppose him about to prepare his ground for a crop of wheat. The first thing is, to get out his manure and deposit it in heaps on his field; in due time it is spread, and ploughed under, together with the grass. Why is this done? If the manure was immediately spread, a great portion of its virtues would be exhaled by the sun, and carried away by the winds; but being ploughed under, the manure and grass are slowly reduced to the food of plants, which is absorbed and retained by the earth, and thus furnishes a supply of food for a future crop. In this operation there is much room for reflection. The manure and grass are chiefly composed of carbon, and is slowly reduced to an elementary state, absorbed by the earth, and is furnished at the proper time to the crop.

Here we are taught our entire dependence on an over-ruling Providence, who has provided the proper agents to effect this necessary process. If the manure and grass were not reduced to their elementary state, they could be of no use to the future crop.

No art of man can perform this operation; we ought, then, to be grateful to that Providence who has provided for us what we cannot do for ourselves.

Yours, Carlo.

July 16, 1832.

No. II.

Mr. Editor,—The ground being prepared for the future crop, and the seed ready, we will suppose the farmer about to sow his wheat, and would inquire, why he sows wheat instead of sand? The seed contains in embryo the future plant; this is developed by agents unknown to us. Why does it not produce rye, barley, oats or cness? The seed is stamped by nature with peculiar qualities, so that it cannot change its product. Every plant is furnished with organs peculiarly adapted to its particular nature, and cannot

Produce other than its likeness. The earth being charged with vegetable food, furnishes the plant the necessary support. The plant is furnished with capillary and evaporatory vessels, by which it is enabled to assimilate its food to its peculiar nature. This is to us another mystery, and a proper subject for reflection. The food of plants seems every where diffused abroad in the atmosphere, and the various plants have the power to attract, absorb, and assimilate it to their various and almost infinite peculiarities.

Yours, CARLO.

No. III.

MR. EDITOR,—In thus wisely disposing the digestive organs of plants, Providence has provided us with an infinite variety of grains and vegetables. We see the deadly cicuta and night-shade growing beside the most innocent esculent plants, and by means, far beyond our comprehension. The nourishing grains and poisonous seeds growing contiguous to each other, and feeding on the same food apparently; yet so different in their qualities. Dr. Young has said, *That the undevout Astronomer is mad*, and we may truly say the undevout farmer is more than mad! He is every where surrounded by invisible agents, which, under the direction of a kind Providence, are working together for his preservation and comfort. No subject on earth appears to me so well calculated to impress the mind of man with devotion, as to reflect understandingly on subjects which are constantly presented to the farmer. Yours, CARLO.

July 16th. 1832.

No. IV.

MR. EDITOR,—We will now consider the farmer budding or grafting in his nursery. What important results does he expect from this simple operation? By this process the various crab stock is made to produce the delicious Spitzenburg and Golden Pippins; and all the choice varieties of the apple. The pear stock is converted into the Virgaloo, the skinless, the Buer, and other choice varieties of the pear. The plum stock is converted into a peach tree, and the peach into a plum, and all the varieties of the cherry are produced by this simplest of all operations. And can man alter what God has made? No! Nothing is altered; the graft or bud is differently organized by an Almighty hand, and as much fixed by unalterable laws, as the stock itself; the plant still continues to receive from the earth and air, the same nourishment and no other; but this nourishment or food on arriving at the graft or bud, finds a new order of things. All those principles which would produce the crab apple, are evaporated, and only such retained as are congenial with the graft or bud. In this we may find the most interesting subject of inquiry, and an inexhaustible subject of reflection. These inquiries and reflections, if correctly understood, and duly persevered in, cannot fail, I think, to impress on the mind of man, the most entire sense of his dependence on the wisdom and goodness of his Creator. He is permitted to modify many things, but can alter nothing. His powers, though extensive, are still limited. In these considerations he may find much that is worthy of his reflection, and can hardly fail to improve both his mind and heart, if these inquiries be properly directed.

July 17th. CARLO.

No. V.

There is another view of this subject which I deem very interesting, and very worthy of our meditation. The atmosphere by which we are surrounded, is composed of oxygen and nitrogen. The lungs of animals have the power of decomposing the atmosphere, and retaining the nitrogen. The blood when thrown into the lungs, comes in contact with the air, absorbs the oxygen, and is instantly deprived of its carbon, which is expired with the breath. Of this fact we may be made sensible, by filling a tumbler with strong lime water; on breathing upon this water, the lime is converted into carbonate of lime or chalk, settles to the bottom, and leaves the water perfectly tasteless. This experiment proves the truth of the above observations, and that the air transpired by animals is loaded with carbon. All vegetables seize with avidity upon this carbonic principle; it is their natural food, and is assimilated to their peculiar natures, and becomes a component part of their substance. Vegetables transpire oxygen gas, by which the atmosphere is supplied, with a constant supply of this necessary principle for the support of the animal creation. Thus we perceive, that the animal and vegetable kingdoms are mutually labouring for each other Without a supply of oxygen thus furnished by the vegetable kingdom, the animal could not exist, and without the supply of carbon by animals, the vegetables must perish, wither and die. He who cannot see in this the hand of an unerring providence, must be blind indeed.

CARLO.

Yates County, July 17th, 1832.

No. VI.

What a surprising variety is observable among the flowery tribes! How has the bountiful hand of Providence diversified these nicest pieces of his workmanship! added the charms of an endless novelty, to all their other perfections! *Hervey.*

MR. EDITOR,—Let us fancy our farmer in a well cultivated flower garden; what a magnificent display! what a wonderful variety of colours! how intimately and admirably blended! Solomon in all his glory was not arrayed like one of these! In this wonderful display, nature is providing for the continuation of each species. The farina, or fecundating powder of vegetables, is diffused in the atmosphere; it is true it sometimes mixes and produces a hybrid variety, but generally it is carried with undeviating certainty to its proper object. Impregnation takes place, and the seed is produced, each containing in embryo the future plant. This may well afford subject for meditation and inquiry to the enquiring mind, which if rightly understood, can hardly fail to improve both his heart and mind; well may he exclaim with Milton,

These are thy works, Parent of good,
Almighty! Thine this universal frame,
Thus wond'rous fair! thyself how wond'rous then!

Yours, CARLO.

July 17th, 1832.

NATURE OF EARTHS WITH REFERENCE TO THE GROWTH OF PLANTS.—The report of M. M. Thenard and Sylvester, on a memoir upon this interesting sub-

jcet by M. J. St. Hilaire, is to the following purport. The author remarks that most persons who have analyzed arable earths, have taken exclusively such as have been cultivated, the original constitution of which has been more or less altered. He believes the various kinds of earths in their first state, have peculiar properties of nourishing particular plants; and that the exact knowledge of these peculiarities would enable cultivators to put those seeds in the ground, which are most suited to it. From various analyses, he draws the following inferences;—1st, that all earths are composed of silica, alumina, lime, magnesia, &c. in different proportions, together with a vegeto-animal matter, which is more abundant as the earth is more fitted for the nourishment of plants. 2ndly, that plants placed in earths, of which the constituent parts have an analogy with the particular nature of the plants do not exhaust the soil. 3rdly, that a series of observations on the different species, genera, and families, which grow naturally and in great numbers, perpetuating themselves on certain soils, with the analysis of these soils, would be of great utility in agriculture.—*Rev. Ency.*

RURAL ECONOMY.

Bee-Moth.

The best method of Destroying the Bee-moth, or of Preventing its Ravages among Bees.

BY JAMES THACHER.

The whole tribe of moths and butterfles propagate their species by eggs, which the females deposit in situations and substances in which offspring caterpillar may find its appropriate food, the moment it is disclosed. The female moth is endowed by the all-wise Author of its existence, with a most wonderful sagacity and skill, in anticipating the wants of the young grubs, when they escape from the eggs and have no mother to direct or provide for them. The numerous species of moths and butterflies seldom live more than a few days after depositing their eggs for a future progeny. The period at which the eggs are hatched after deposition, depends much on the temperature of the atmosphere; by exposure to the cold of an ice-house in summer, the hatching may be retarded, as it may be hastened by a heated atmosphere in winter or spring. In general, the eggs of moths remain locked up during winter, in the secure spot which the mother insect had selected, and are hatched into grubs or worms by the genial heat of spring.

The silkworm moth, when unrestrained in its natural habits, deposits its eggs on the leaves of trees, and carefully glues them to the leaves, that they may not be shaken off by the wind or washed away by rains; and the larvæ, as soon as disclosed, finds its nutriment in the leaf by which it is sustained. The moth that produces the caterpillar *(Phalæna neustria,)* and that which produces the canker-worm *(Phalæna vernata peckii,)* attach their eggs to the branches of fruit trees, that the ensuing vernal heat may bring the young brood into existence, where they find their food in the buds, and leaves just expanding. The moth from which comes the worm called the borer, and the insect from which proceeds the peach tree worm, deposit their eggs on the bark of trees, that the larvæ may penetrate into its substance for support. The mischievous curculio stings the young fruit and deposits its eggs, where the young maggot will find its nutriment, and at the same time its vehicle to convey it to the earth for a more permanent residence. The diminutive moth whose progeny preys upon woollen cloth, selects that article as a nidus for her eggs. To these instances numerous others might be added.

The true bee-moth, according to Dr. T. M. Harris, the *Phalæna tinae cereanea* of Linnæus, is a native of Europe, but has been introduced and naturalized in our country. This insect makes its appearance in April, or May, according to the warmth of the season, and continues its depredations among bees till October. It appears in the form of a small miller or nocturnal butterfly, the same that we see fluttering about our lights in a summer's evening. It is smaller than a bee, of a grayish colour, paler towards the head, glossy brown or purplish near the outer margin of the wings. They have four wings, but seldom soar high in the air; they are frequently seen attached to some substance, apparently motionless, but on the approach of danger they instantly leap off with great rapidity.

These pernicious insects discover a peculiar disposition to molest bees, and propagate their species in bee-hives. They lie concealed in the grass during the day, and effect their mischievous purpose in the night, when, by the aid of a light, they may be seen in great numbers, hovering about the apiary, to which they are allured by the sweet odour from the hives. The female moth makes every effort to deposit her eggs within the hive, but failing to find admittance, she lays them about the lower edges and crevices, as near the entrance as she can; and it sometimes happens, probably, that they are carried into the hive by the legs of the bees. The eggs are, according to the course of nature, hatched into caterpillars or worms, having sixteen feet and a reddish head; these creatures soon wend their way into the hive; and not unfrequently they have been known, with their strong jaws, to cut a channel of their own size through the substance of an inch board, to obtain admittance. These worms, when arrived at maturity, construct an oblong oval pod or cocoon, in which they envelope themselves. In this situation they continue to enlarge and extend their covering, leaving an opening for the head; and while in their armour, thus formed, they are perfectly secure from any annoyance from the bees. They feed on the wax and comb, devouring and gnawing down the cells which contain the eggs and the young bees, until they are wholly destroyed. At length the caterpillars are changed into a chrysalis state, their bodies are contracted within their cocoon, they cease to feed, and in due time are transformed into a winged insect, the true bee moth. Here the insects continue to increase in number, till the whole order and economy of the domicile is interrupted; and the bees, being overpowered, either die, or in despair quit their hive to the enemy, the first or second year of their attack.

The moths disclosed from the cocoons, seek an exit from the hive, when they couple; and the females, having deposited their eggs in a suitable nidus, soon perish, leaving in the hive in autumn a numerous progeny to be transformed into their perfect state in the ensuing spring. The moths, thus transformed, pursue the same train of actions to propagate the species, which had been pursued by the parent insects of the

preceding year; and it is not improbable, that two or more generations are reared in succession, the same season. These destructive insects are more prevalent in some local situations than in others; in some places the stock of bees is entirely annihilated, and all attempts to cultivate them are abandoned.

The female moth is remarkably fertile, laying 400 or 500 eggs in a season. The precise time when the female deposits her eggs, and the time required for their hatching, has hitherto eluded my research; but I have known moths to appear early in April, and at one time have seen a worm thrust out of a hive by the bees in the month of March. The process, both of hatching and transformation, is promoted by the heat within the hive. There is always in the hive with the moths and grubs a quantity of web, resembling that of the spider, the use of which, as I conceive, is to entangle the eggs to prevent them from being spread abroad and lost, and to serve as a sort of cradle for the young grubs. About the middle of May, 1828, I perceived on the floor-board of a hive, a mass of web in which were numerous grubs, from the size of a needle's point to that of half an inch in length. When this web is observed in or about a hive, it may be certainly known that the hive is infested with insects. I inclosed a number of full-grown caterpillars in a box for experiment. They immediately spun their cocoons, in which they enveloped themselves, and in this chrysalis state they remained till July and August, when they made an aperture with their head, through which they escaped, and, expanding their wings, launched into the air. Thus the disgusting caterpillar, which so lately crept on sixteen feet, now is seen to fly with the gracefulness and ease peculiar to the butterfly, one of the most elegant and active of the winged insects. Here we may recognise the Deity in his wonderful works!

In October, 1830, I took from a bee-hive which I purchased, about twenty cocoons containing chrysalis, put them into a box glazed on one side, and kept them in moderate temperature through the winter. In the months of July and August they were transformed into winged moths, a part of which were double the size of others, probably designative of the different sexes; but I was surprised to observe one among them, a beautiful snow-white miller. I put a quantity of honey-comb in the box, with the hope of procuring a nursery, that I might be able to discover their habits and mode of propagation, but they survived but a few days.

Methods by which the Bee-moth may be destroyed.

The extermination of this destructive species of insects is absolutely impracticable, by any means that art can devise; but their number may be considerably diminished in any local situation, and their ravages among apiaries ma y be entirely prevented. Bottles, with a little honey or syrup at the bottom, placed near the hives, will entrap multitudes. If open shallow vessels, containing a mixture of sweetened water, to a pint of which a gill of vinegar be added, are placed within their range, they will be enticed to sip the liquor, by which they will become intoxicated and drowned by hundreds. They should be burnt the next morning, lest by the heat of the sun and air they become resuscitated. If lights were placed near the hives, a still greater number would be allured to the traps, where they may be destroyed.

When these insectshave got possession of a hive, they cannot by any means in our power be expelled; the only remedy consists in the removal of the bees into another hive. It would be preposterous to suppose that any article could be applied to the insect, while in the cocoon in the interior of the hive, that would effect its destruction. Common salt has been recommended, but I have inclosed the worms in a box containing marine salt, and they have covered themselves with their web and remained there six months, when they were transformed into the miller. I have put them in a solution of alkaline salts, and even potash, and they have escaped with impunity.

Knowing, therefore, the inutility of all our means to effect the destruction of the bee-moth, it only remains to describe the most effectual expedient to prevent its ravages among our apiaries.

A proper understanding of the instinctive habits of the female moth for the propagation of her species, will indicate the most successful mode of procedure. It has been already observed, that the female selects an appropriate situation as a nidus for her eggs; she discovers a partiality for the floor of the bee-hive, anticipating the sweets of its contents for her dainty offspring. Secluded from the interior of the hive, she deposits her eggs about its edges, and in crevices as near its entrance as possible, trusting to the instinctive faculty of her progeny to seek their way into the hive. From all my observations, I have not been able to discover that moths enter bee-hives by the common entrance. The bees have constantly stationed at their avenue a powerful and vigilant guard, and on the approach of a moth, a mutual alarm and commotion is observable, and the assailant is soon obliged to retreat. In locations, however, where moths are very numerous, they may out-general their opposers, and obtain an entrance. From the foregoing considerations it must appear obvious, that the only effectual method to secure the hives from the ravages of the great enemy to bees, consists in a close house to seclude them from all access. This unquestionably affords the only defence, and combines all the requisite advantages.

From three year's experience, I can affirm that this plan has answered my full expectations, and I can rely upon it as a perfect security. I have no reason to suppose that my apiary is in the least infested with the insects. The form and dimensions of the house which I have found convenient, is in length proportioned to the number of hives which it is to contain; the width is about eighteen inches, and the height about two and a half feet, for a single tier of hives, with a roof sloping in front. The front part should be entirely closed, having apertures at proper distances to correspond with the mouths of the several hives to be placed within. The outlet from the hive and from the house, should be a little sloping downwards, that the bees may with greater facility remove obnoxious substances, and be better enabled to defend themselves against their enemies. The whole wall on the back part should consist of doors furnished with hinges and fastenings. The house is to be placed on posts about two and a half feet high, set into the ground and secured from being turned over by the wind. The doors may be shut or left open in the day, as circumstances may require, both winter and summer; and if thought necessary, a grating may

be placed before the avenue at night. Instead of the house just described, the hives might be placed in an upper apartment in an out house, and the height from the ground would afford additional security against the moth. As a further precaution, it may be recommended to whitewash the front of the house, and the floor-board, which should also be changed frequently.—*Mass. Agricul. Repository and Journal.*

Plymouth, Oct. 30, 1831.

Baked Beans.—Take one quart of Beans, wash them thoroughly, soak them over night and rinse them in the morning. Put them into an iron pan with two quarts of water and stew them over the fire a quarter of an hour. Then wash and score one pound of pork, (fat and lean) and put it into the kettle with the beans and boil them quarter of an hour longer; then stir in two table spoonfuls of molasses, fill up the kettle with water, and if possible let them stand in the oven over night.—*Northampton Courier.*

Brown Bread.—Indian meal, half a peck; Rye meal, half a peck; molasses, one gill; yeast, half a pint; salt, two table spoonfuls. This is to be mixed with skimmed milk, boiled and cooled, but water, milk warm, will answer. It must be mixed quite soft, kneaded one half hour, and baked in iron pans twelve hours.

TO THE EDITOR OF THE NEW-YORK FARMER.

Scouring of Horses.

Mr. Editor,—This complaint has been very prevalent among horses at different times. The following remedy I have never found to fail. Take a quarter of an ounce of gum gamboge, half an ounce of aloes, half an ounce of saltpetre. Reduce all these to a fine powder, add flour and water until it is of a consistence of unbaked dough. Divide it into four pills, about the size of an egg, give one pill every night and morning; they will soon correct the scouring. If the horse has much fever, take half an once of Ipecacuanha, add to it about two quarts of hot, but not boiling water, put about half a pint of this tea to a pail of water, and let the horse drink it. About three half pints should be drank in the course of the day, while any fever continues; when this is removed, then, and not till then, take a quart of oak bark, (such as is used for tanning) with the ross taken off, add to it two quarts of hot water, let it stand till cool, then add a pint of this tea to a pail of water, and let the horse drink freely of it through the day. I have never known these remedies to fail in effecting a cure.

Yours, &c. R. M. W.

Middlesex, July 5th, 1832.

Hoven Catte.—*Mr. Fleet,*—Take half a gill of spirits of ammonia, (or hartshorn) add to it a pint of cold water, and give to the sick animal. I have seldom known this to fail to give immediate relief. R. M. W.

July 7th, 1832.

Yellow Water.—*Mr. Fleet,*—This complaint has been fatal to many fine horses. I have rarely known the following treatment to fail of effecting a cure. Take a quarter of an ounce of gum gamboge, half an ounce of aloes, and half an ounce of saltpetre; reduce all to a fine powder, mix flour and water until it is of the consistence of unbaked dough. Divide it into eight pills, give one pill every morning and evening. Take half an ounce of saltpetre, add to it a quart of cold water, add about half a pint of this to a pail of water four times a day, and give it to the horse to drink. This treatment should be continued eight or ten days, and I believe, will effect a cure in most cases. R. M. W.

Middlesex, 7th *July.* 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

reservation of Bacon.

Sir,—In the Genesee Farmer of June 30th, notice an article on the preservation of bacon, by means of charcoal, which meets my views perfectly. Charcoal is certainly the best anti-septic that we know of, and I think if run through a tanner's bark mill, would be reduced about fine enough. An inch or two of the coal, laid in the bottom of a cask or box, and the hams laid on it in close order, then covered with charcoal, then another layer of bacon, covered in like manner, and so proceeding with layer after layer, covering each with charcoal, I think it will be perfectly secure against any rancidity, taint or worms.

Yours, &c. R. M.

Middlesex, July 9, 1832.

Culture of Silk.

We are much pleased with the following letter, and request an attentive perusal of it. For ourselves, we long since arrived at the same conclusion with Mr. Barclay—that the culture of silk may be made a very lucrative business in this country. His remarks relative to his success in reeling will not escape attention.

In reply to Mr Barclay's query as to the Morus multicaulis, we have to remark, that this species of mulberry will not answer for hedges; its wood is too soft, and all kinds of cattle too fond of it. Its seed will vegetate, if sown immediately after maturity, as we have a few plants now growing from seed that grew on our own trees this summer; and the trees that bore this seed were only *one year old.*—Our opinion is, that it will produce seed as abundantly as the white mulberry, when the trees are of proper age, and that the seed will vegetate as well as that of the white.

We are in possession of no facts that recommend the rearing of several crops of worms in one summer—the experiment of Mr. Barclay himself is the most flattering of any we have become acquainted with. We have never been able to hatch the worms with sufficient regularity in a second crop.—*Ed. A. Far.*

Mr. Smith, *Monticello, July* 10, 1832.

Dear Sir,—Prompted by a desire to contribute a mite, however small, to the furtherance of the interests of the "American Farmer," and incited by your request to be informed of the success of my attempt at the culture of silk, I am induced to send you a sketch of the result of my experiments in that interesting branch of industry.

The half ounce of eggs obtained of you last fall, together with a few thousand more, amounting in all to about thirty thousand, were brought from the cellar, and exposed to the ordinary temperature of a room, on the 3d of May: no recourse was had to artificial heat, and as the weather was unusually cold, they did not commence hatching until the 16th, and terminated on the 20th. They were fed on the white mulberry leaf, and reared pretty much in the usual way on the American System: a few commenced spinning their cocoons twenty-nine days, though the main crop were some days later. The weather was unusually inclement during the whole period of their existence, and it was more than once predicted by some of the "knowing ones," that I would not make a pound of cocoons; and the long continued and repeated rains threatened to verify their forebodings; but in despite of the many unfavourable circumstances, the worms thrived well, until the occurrence of a very severe hail storm, when the temperature of the atmosphere underwent a very great and sudden change, which killed some, diseased many, and retarded the progress of all; many, which were then engaged in spinning, languished some days, and either died on spun imperfect cocoons. But notwithstanding all these untoward circumstances, my expectations have been more than realized. A few days after gathering the cocoons, six pounds were indiscriminately taken and weighed, and found to contain an average of 240 cocoons to the pound. A selection was then made of the largest for seed cocoons, and 188 ascertained to weigh a pound, (of these about a dozen were double.) Some of the very smallest were then selected, consisting principally of white cocoons; and 360 were required to weigh a pound. A few hundred cocoons were of a beautiful pearl white, and the remainder were of different shades of yellow, from deep orange to pale straw colour.

I have thus presented you with a brief but faithful outline of my attempt in the culture of silk, from which you can deduce your own conclusions. My own decided impression is, that it is one of the most lucrative as well as agreeable pursuits we can engage in. I have encountered no difficulty in the business, that of reeling, which I find to be more imaginary than real, and is by no means insuperable.—By the exercise of patience and perseverance, I have acquired a tolerable proficiency in the much dreaded task of reeling, though the reel on which I operated, I conceive I have very much simplified and improved. The ingenuity of some of our citizens has already brought the light of science to bear on this art, hitherto much neglected, and confined to the lower and less intelligent orders of society.

Professor Emmet, of the University of Virginia, has invented a very useful and ingenious machine, which I saw in successful operation a few days since, by means of which the operation of reeling, doubling and twisting, formerly requiring several distinct operations, can be simultaneously and expeditiously performed to any desirable degree. Many of your readers would be gratified with a more thorough account than has hitherto been given of the Morus multicaulis. Does it answer for hedging? Will its seed produced in this country, vegetate? &c. &c. If you are in possession of any facts relative to the possibility of rearing several successive crops of silk worms during the season, their communication to the public would be an acceptable service. I have already reared two crops this season, and may say I have the third in progress now, and as soon as it is finished intend trying a fourth. I have tried, with some success, the project of rearing the worms in open exposure, and have at this time nearly a thousand on a white mulberry tree, with no other protection than catgut to defend them from the ravages of birds. The worms are now in the 10th day of their age, and are in very fine condition; (some exposed last April withstood the greatest vicissitudes of weather with impunity.) I confined 1000 worms exclusively to a diet of black mulberry leaves, and can attest the fact of their capacity to yield large cocoons, though the fibre seems to be coarser than the product of the white mulberry. I also tried the paper mulberry, (Otaheite) but contrary to the experience of Mons. Bonafous, found it barely adequate to the support of life, unless alternated with the white and black, when the worms would be enabled to spin a very dwarfish cocoon.

My near approach to the end of my sheet compels me reluctantly to conclude, which I will do, by observing that my experience has gained many advocates, and made some converts. It has imparted a new impulse, and many have engaged in the culture of silk with zeal which warrants the most confident hopes of success; and a fair investigation of the subject justifies the belief that we will soon have a permanent and valuable staple, and that America is destined to become one of the greatest silk-growing countries in the world.

Respectfully, &c. your friend,

J. T. Barclay.

Emmons' Patent Horse-Power.

In vol. 4, page 259, we gave a description of what we then thought far the best and most simple horse-power ever brought before the public. Since that time Mr. E. has made so many improvements, that we are induced again to introduce it to our readers. Knowing Mr. Emmons to have been almost exclusively employed for several years, in making improvements in machinery, mostly for agricultural purposes, we take pleasure in recommending him to that patronage, of which his indefatigable perseverance and perfect knowledge of mechanical principles, render him worthy.

The invention is a very simple mode of getting a rapid motion, and is very effective in its operation. We saw it attached to a circular saw of 16 inches diameter, by a strap directly from the drum, F, to a whirl on the saw spindle which gave it a velocity of 15 to 1600 revolutions per minute, slitting ash and hickory timber 4 or 5 inches thick, with the power of two horses. We also saw it attached to Mr. Emmons' improved threshing machines, propelling them with much power and effect, separating the grain and straw in a most desirable and satisfactory manner.

The advantages of this horse-power are cheapness

requiring no extra frame or building to support or protect it, and being portable, requiring only a few minutes to take it apart, to be stored away in some convenient place. We understand Mr. E. applies it to small corn mills, in which case he dispenses with the drum, &c. This horse-power must be a very great desideratum in level districts, where water-power is not easily obtained.

Fig. 1.

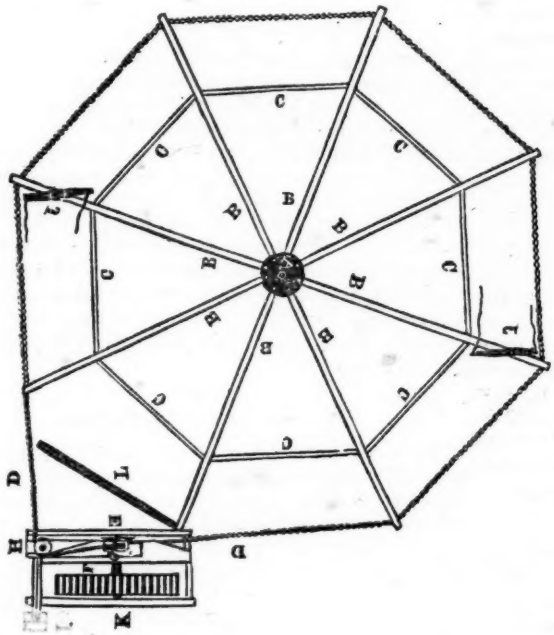


Fig. 2.

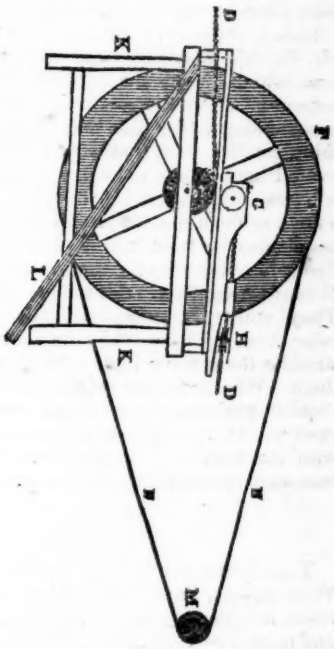


Fig. 4.

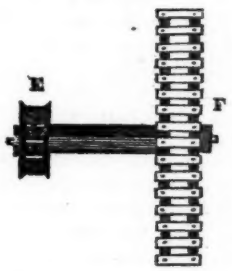
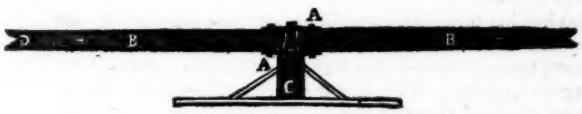


Fig. 3.



A The centre plate, or flaunches, 16 inches or upwards in diameter, which serves as a nave or hub. B—B the arms which are usually from 10 to 15 feet in length, their inner ends being secured between the above said plates or flaunches from which they diverge by bolts. C—C Braces between each of the arms to keep them at equal distances apart. D—D The chain which is placed around in the forked ends of the arms and passing back of the taughtening pully H, over the guy pulley G, and round the main or labouring whirl E on the drum shaft, in the circle of which is 8 or more iron or steel pins, or if the whirl is cast, projections, as represented at E. fig. 4, in order to prevent the chain from slipping; the diameter of said whirl E being varied according to the motion required to be given the drum F, from which a band may pass in any required direction to the machinery which is to be put in motion, as M N, fig. 2. I The weight box which is suspended by a rope or chain passing over a pulley and attached to the moveable end of the timber in which the pullies H and G are secured, and keeps the chain taught, by causing the pulley H to press outwardly against it, while the guy pulley G, is kept to its position by a bolt passing down through and near the end of said timber, as shown by the dot near the outer edge of said pulley G, into a plank which extends across the frame K K. The letters in figures 1st, 2d, and 4th, refer to the same parts—fig. 3d is a side view of two arms B B, as secured in the flaunches by bolts A A. C the axle or standard supported by its bed planks and braces, on the upper end of which the hub or flaunches, with the arms diverging, may revolve at a height, generally, of from 2 1-2 to 3 feet from the ground. D, a V plate, on the front side of the forked ends of each of the arms.

NATURAL HISTORY.

The Red Wing Phoenicopter.

Of this fowl, there are specimens to be seen in both the museums of New.York. Its neck and legs are longer in proportion to the size of the body, I believe, than those of any other known fowl. In this respect, I think it exceeds the crane. There is a specimen in Mr. Peale's Museum, by no means an extraordinary one, which, being made to stand somewhat erect, measures about five and a half feet high. Its body is something larger than that of a rooster, and something smaller than that of a middling turkey. The name Phoenicopter imports red wings, but its plumage is mostly red, and it is called the flamingo. I saw a flock of them in Chili, some years ago, and they are found also in most warm countries; like geese, in flying they form some regular figure. he ancient Romans considered their tongue as a delicate eatable. They construct their nests upon the ground; but raise them up from 17 to 18 inches high, so as to straddle them while laying their eggs, or sitting upon them. Whether some of the cranes do so too, may require, perhaps, some further investigation. Of this genery, there is but one known species, it is ranked with the waders, (*Paludivades.*) though its webbed toes seem to entitle it to a place among the Palmipedes.

FRANKLIN.

THE DOG.—At the fire corner of Courtlandt and West streets, the following incident occurred, which tends in a striking degree, to illustrate the sagacity and fidelity of that most excellent animal—the dog.

A young man slept in the third story of the building in which the fire originated. His dog, lying by his bedside, scented the fire which had broken out below. He immediately endeavoured to awake his master, by laying his fore paws on his breast, and drawing them gently over his body. The young man aroused himself, but not suspecting the object of the animal, fell again to sleep. The dog then seized the bed clothes and stripped them off his master, who a second time covered himself up and went to sleep. The dog, aware that no time was to be lost, took hold of the young man's shirt with his teeth, and tore it from his arm. At this moment, the flames were bursting into his chamber, and he saved his life by descending the tackle fall. which he threw out of the window, hand over hand. The worst of the story remains to be told. In his hurry to escape destruction, the young man forgot that his keeper had no means of descent, and burst into a flood of tears on finding he could not return to save him. The faithful creature perished!

Let those of our friends who are advocates of the indiscriminate slaughter of this half-man, half-beast, read the foregoing fact—and pause.—*N. Y. Gaz.*

SAGACITY OF ELEPHANTS.—The battering train going to the siege of Seringapatam had to cross the bed of a river, that resembled other rivers of the Peninsula, which have during the dry season, but a small stream of water running through them, though the beds are mostly of a considerable breadth, very heavy for draught, and abounding in quicksands. It happened that an artillery man, who was seated on the limber of one of the guns, by some accident fell off, in such a situation that in a second or two, the hind wheel must have gone over him. The elephant, which was standing behind the gun, perceiving the predicament in which the man was, instantly, without any warning fom its keeper, lifted up the wheel with its trunk, and kept it suspended till the carriage had passed clear of him.—*Military Adventures.*

SWIMMING OF BIRDS.—The superior velocity with which aquatic birds swim under water, has not wholly escaped notice; but it is not entirely produced by the action of wings, which are sometimes used as fins to accelerate the motion, but is occasioned by the pressure of the water above. In swimming on the surface, a bird has two motions; one upward, the other forward at every stroke of the feet; so, that when covered with water, that force which was lost by the upward motion, is all directed to the progressive, by which it is enabled to pursue its prey, or to escape an enemy with incredible speed. The otter and water rat swim much faster under water, than they do upon the surface.

The Boa Constrictor.

At a recent meeting of the Asiatic Society, the Rev. Mr. Anderson, Malay translator to the Government at Penang, presented to the Society a stuffed Serpent of the genus Boa Constrictor. It was caught by two Malay fishermen at Prince of Wales's Island, under a large rock in the jungle near the sea-beach, where it was lying evidently preparing to make an attack on a moose-deer, which was at a short distance from it; the Malays, however, having seen its head projecting from under the rock, quietly ascended and slipped a noose of rattan over it, by which it was secured, and conveyed to Mr. Anderson a few hours afterwards. Desirous of trying the strength of this extraordinary animal, he caused two men to lay hold of its head, while two others pulled at the tail, but though their whole strength was exerted to endeavour to stretch it out, all their endeavours were in vain; the animal continued rigidly folded up. Its length was found to be 15 feet 2 inches. Its stomach was quite empty; but in that of another about 5 feet less, which was killed about the same time, a moose deer was found entire. The specimen now presented to the Society is of the largest size that has ever been found on the island; but some of these animals are of an enormous length, measuring upwards of 30 feet. The Constrictor is known from the other species of Boa by having 240 scuta on the belly, and 60 on the tail; the body is beautifully marked with darkish spots, resembling gothic arches, and the belly of a straw colour. These serpents generally frequent thick woods, and are to be found in holes under large stones, where they lie watching for their prey, covered with leaves. The powers of compression which they possess are hardly credible, as they have often been observed to twist themselves round tigers, stags, and other animals, and by the immense strength of their circular muscles break their bones to pieces. On the island of Ceylon they are found of an enormous size; and of those of South America it is said that they have been known to swallow large buffaloes entire, with the exception of their horns, which remain projecting from the mouth.

and then fall off. As they always swallow a whole animal at a meal, they eat but seldom, but they can subsist a long time without food. Mr. Anderson says he lately observed one which had lived upwards of three months in a cage on the ground without food, and to all appearance, it was as lively then as when first caught, and made its escape.

New Publication.

The Gardener's Magazine, and Register of Rural and Domestic Improvement. London, June, 1832. Published once in two months. By J. C. Loudon, F. L. S. H. S. &c.

Most of our readers are familiar with M. Loudon's productions, particularly his Gardener's Magazine —a periodical conducted with much ability, and executed in a beautiful style. The contributors to it are numerous, mostly practical gardeners of Great Britain, and a respectable number of very scientific amateurs of gardening in that country, and of almost every other on the globe.

The first article is a continuation of a gardening tour, in the west of Scotland, by Mr. Loudon. His remarks are confined to the description and state of cottages, for the improvement of which much spirit is excited, owing to the depressed state of the agricultural population. Landed proprietors have seen the importance of ameliorating the condition of the labouring class. Since 1805, when he made a similar tour, he thinks there have been improvements in the west of Scotland, in the dwellings of the working classes, but that they are still lamentably deficient. He divides them into three classes.

1. Those built by small trades, mechanics, or other workmen, for their own occupation, on feud land; that is, land held on very long or perpetual leases, at a rent of, generally, from 10*l.* to 15*l.* an acre.

2. Cottages built by proprietors, for their servants, as gardeners, bailiffs, gamekeepers, &c.; and for their field labourers, &c.

3. Cottages built by farmers for their yearly servants.

His objections to the first are, the forming of sleeping rooms in the roof, and making them so small, with such diminutive windows, that they never can be well ventilated; and in not having the ground floor one or two feet above the surrounding level: and the windows to open or hoist. The radical cure for these evils is to be found, says Mr. L., in the scientific education of the rising generation at parochial schools. Render men fully aware how essential pure air is to the human frame, and how much dryness contributes to warmth, and they will not voluntarily live in dwellings deficient in these important particulars. His objections to the second class we quote in his own language, to which we invite the particular attention of those who build houses in the U. States.

"The principal fault which we have to find with this class of dwellings is, that the taste which they affect to display is too often at variance with the principles of utility and convenience; and yet nothing can be more certain than that utility is the fundamental principle of all permanent beauty."

"The beauty of which cottages are susceptible is of three kinds; and must result either from their actual fitness for being human dwellings, from their being outwardly expressive of that fitness, or from their style of architecture. The first of these beauties is technically called the expression of design, or fitness; the second, the expression of purpose; and the last, the expression of style. Every cottage whatever ought to display the two former qualities; and what are called ornamental cottages, or such as gentlemen who possess parks or pleasure grounds generally erect in them as entrance lodges, or as dwellings for their servants, ought to display the latter. Gothic cottages belong to the ornamental class; but if they are examined with reference to the principles of fitness, or of expression of purpose, they will commonly be found wanting. For example, their windows are low, and do not reach to the ceilings of the rooms, which must always render the ventilation of the apartments imperfect. Their window frames are filled in with lattice work; and these frames shutting against mullions, or broad upright and cross divisions of the window, must impede the entrance of light. Gothic windows are also, as they are generally constructed in cottages, less air-tight, and the mode of giving air by them is much less convenient, than that by the common suspended and balanced sash windows. The reason of these sins against fitness, in cottages pretending to the beauty of architectural style, may be thus given:—The general character of a cottage, as distinguished from that of dwellings of a higher class, is considered by architects to consist in low walls, and of course, low ceilings, small windows, broad rather than high; and conspicuous roofs, generally with windows in their sides. We admit, that taking cottages as they are usually constructed, these features may be said to constitute their character; and hence they would be employed by a painter, or poet, or a descriptive writer, who wished to portray a cottage of the present day."

"The fault of the architect is, that he has too closely followed the painter and the man of literature; forgetting that his art, being founded upon and guided by utility, ought to embrace all improvements, not only in architecture, but in the uses of buildings, as they are brought into notice. The fault of the landlord is, that he has thought of little except the outside show of his cottages; but it is surely as much his interest to encourage whatever will raise and elevate the character of the people who live on his land, as it is the duty of the architect to consider, not what a cottage has hitherto been, but what it is capable of being made. Putting a servant into a handsome Gothic cottage, is like putting him into a handsome suit of livery; but there is, unfortunately for the servant, this differenae, that the faults of the dwelling, if it does not fit, cannot be so readily perceived as those of the coat; and nobody may know, but the occupant and his family, how little comfort sometimes

exists under a gay exterior. For our own part, we have seen so many ornamental cottages and lodges on gentlemen's estates, both in England and in Scotland, small, damp, and badly contrived within, that we are compelled to consider them as much badges of slavery as a suit of livery. Let us hope that another generation will effectually simplify and improve the former, and entirely abolish the latter.

"We are aware that there is great prejudice in favour of Gothic buildings of every description, from the cottage to the palace; arising from associations of reverence, antiquity, and chivalry, which are connected with them. Maturely considered, however, we cannot help sometimes doubting whether the existing prejudice in favour of Gothic architecture does not reflect more discredit than honour on human nature; at all events, it is a prejudice unworthy of an age of rapid improvement like the present. We freely acknowledge that we do not expect many converts to our views in this respect: because simplicity is one of the last refinements, not only in the progress of the arts, but in the progress of opinion. Believing, as we do, that this principle is undeniable, we have little doubt but that much of what is now considered beauty, both in art and in literature, will by the next generation be neglected, and, as the French characteristically express it, "reduit au merite historique."

However, as a superabundance of wealth must find means of displaying itself, let there be Gothic or other fanciful cottages and lodges; but let not fancy be exercised on them at the expense of the health and comfort of the inhabitants. Let architects and their employers begin by such dimensions and arrangements as will insure commodiousness, and every requisite convenience; let there be lofty ceilings for a large volume of air; large windows for abundance of light, and for ample ventilation; a raised floor, and thick walls, to insure dryness and warmth; and fireplaces, flues and chimneys always placed in the interior walls, and never in the outside ones."

For the farm-servants, cottages of Scotland are built by those farmers who have in view the expiration of their leases, consequently, they are the worst description of cottages. He thus speaks of them:

"On crossing the country from Jardine Hall to Closeburn, Aug. 9, 1831, we passed the farm of Cumroo. The farm-house and farmery are ample and most substantial looking buildings. The dwelling-house is more than usually large, with two rooms in its width; a part of its exterior wall is covered with large well-trained fruit trees; and there is an excellent kitchen-garden, well stocked, and apparently in good order, in which a professed gardener (judging from his blue apron) was at work; so that the whole, had it not been for the farm-yard behind, might very easily have been taken for a mansion residence. Passing this house, and advancing about a furlong, we came to a row of fourteen cottages occupied by the yearly servants of the farmer and occupant of the large house, who, we were told, came from the best cultivated district in Scotland, East Lothian. Observing that to every door in the row of cottages there was but one window, we entered one of them, and found a woman sitting at a table, writing a letter (which seemed in a very good hand for a person in her rank of life), while she rocked the cradle with her foot. The room, which comprised the whole cottage, was about 14 ft. square, without a ceiling, and open to the roof; the floor was of earth, and the walls were left rough, just as the stones were put together in building, but whitewashed: there was a fireplace, but only one fixed window of four small panes. In this room there were two box beds, placed end to end, and behind them a space of about 2 ft. in width for fuel and lumber. The furniture and utensils, though scanty, were clean and neat; more especially when contrasted with the floor, which, underneath the beds, was of earth, quite loose; though, near the fire, were laid some flat stones, which the woman said her husband had picked up and put down himself. The cottage window, as already observed was fixed, and incapable of opening to give air. There was no back door, and no opening either in the roof or walls for ventilation, except the entrance door and the chimney. There was no appendage, or garden ground of any sort, behind these cottages; but, across the road, in front of them, was a narrow strip of ground, divided so as to allow one fall (36 yds. square) to each cottage. In these gardens there was no structure of any kind."

In the following paragraph he states what he considers their greatest defect, and which is common to them all.

"Every one who has lived any time in England is aware that the humblest cottage in that country has an appendage to it, essential not only to cleanliness, but even to decency. It is hardly credible, but it is nevertheless a fact, that these apendages are scarcely ever to be met with throughout the west of Scotland. There are even new and substantial farm-houses, and first-rate gardeners' and bailiffs' houses, without them. Some gentlemen who have built themselves handsome mansions, and erected elegant lodges at their entrance gates, have altogether neglected to add this necessary convenience to those lodges. Not far from Ayr, we found a new village, consisting of about a hundred houses, all feud; and we ascertained from one of the inhabitants, that there were only three of the houses to which this appendage was attached. It is not to be wondered at, therefore, that the outskirts of all the villages and of all the towns, and the immediate neighbourhoods of all the cottages, in the west of Scotland are most offensively disfigured. That the general absence of the conveniences alluded to, in this district, is clearly owing to the general want of a taste for cleanliness and decency (in the particular alluded to) among the inhabitants, and not from want of means to procure them, is evident from the circumstance, that every house in the above village is the property of its occupant, who might have built upon his ground whatever he chose. It appears, also that this want of cleanliness and decency is not inconsistent with a high degree of cultivation in other particulars; for, the same village being at a distance from the parish school, the inhabitants have joined together, built a school-house, and hired a teacher, to procure for their children the benefits of education."

The next article which we deem interesting to American readers is, Some account of the Nursery Gardens and the state of Horticulture in the neighbourhood of Philadelphia, by Wm. Winne, foreman

in Bartram's Botanic Garden, Philadelphia. We give Mr. W.'s entire description.

"I shall begin with Bartram's Botanic Garden; the precedence being due to it, both for antiquity (it having been established 100 years), and from its containing the best collection of American plants in the United States. There are above 2000 species [natives) contained in a space of six acres, not including the fruit nursery and vineyard, which comprise eight acres. The handsomest and largest tree I ever saw is here; it is a Cupressus disticha L. [Schubertia disticha of Mirbel, Taxodium distichum of Richard], and is 120 ft. high: at 18 ft. from the ground it is more than 28 feet in circumference, and it averages 28 ft.: it is 91 years old. A Gymnocladus canadensis or Kentucky coffee tree, is here 80 ft. high; an Acacia Julibrissin, 35 ft.; an Andromeda arborea, 75 ft.; an Aralia spinosa, 25 ft.; a Gordonia pubescens 50 ft., this tree is now in flower; and a Diospyros virginiana is 80 ft., and has a fine crop of ripe fruit on it, which tastes pretty well. The Americans distil an excellent brandy from this fruit. There are also two trees of Magnolia acuminata 80 feet high, and six other American Magnolias, from 40 to 60 feet in height; with species of Quercus and Pinus, &c. &c., in great variety. Indeed, the most remarkable feature in this nursery, and that which renders it superior to most of its class, is the advantage of possessing large specimens of all the rare American trees and shrubs; which are not only highly ornamental, but likewise very valuable, from the great quantities of seed they afford for exportation to London, Paris, Petersburgh, Calcutta, and several other parts of Europe, Asia, and Africa. This garden is the regular resort of the learned and scientific gentlemen of Philadelphia. A committee of the Horticultural Society closes an account of this nursery as follows:— "Mr. Carr, who deserves so much credit for the classification of his nursery, is no less entitled to praise for the admirable order in which his tool-house is kept; a place that, in most gardens, instead of possessing regularity, is made a mere lumber room. The best order is likewise preserved in the seed room, in putting up our native seeds. That apartment, moreover, contains a library of 400 volumes, in which are all the late works on botany and horticulture."

The description of Messrs. Landreth's is contained in five lines, and of "*a* Mr. Hibbert's," in five more. The following completes his description of the Nursery Gardens in the Neighbourhood of Philadelphia.

"There is another class of gardens, very distinct from any I have seen before: those of plant growers, who, to a small nursery, and green and hot houses, add the appendage of a tavern. The two principal ones of this description are kept by Mr. Arran and M. d'Arras: the first has a very good museum in his garden; and the latter possesses a beautiful collection of orange and lemon trees, very large, but trimmed after the French fashion. These places are the resort of many of the citizens; Philadelphia having no parks, or national gardens, for the purpose of recreation.

There are many small places in the environs of the city hardly worth noticing at present."

The next succeeding article is, "Notices of some of the principal Nurseries in the United States of America, made during a Tour through the country, in the summer of 1831, with some Hints on Emigration. By Alexander Gordon." This article extends to upwards of a dozen pages, and gives, in general, a favourable, and we believe, an impartial description. Mr. Gordon is an inhabitant of Great Britain. He has travelled over a very considerable portion of the U. States for the purpose of collecting our native plants, and transmitting them across the Atlantic. He has just returned to New-York from England, for the same purpose. We hope he will continue to meet with the friendship and hospitality of our country. At some future day we will recur to his introductory remarks on the prospects of American gardening. Did our limits permit, we would insert his interesting article entire. Mr. G. very greatly admires the Messrs. Thorburn's establishment; says Mr. Hogg has made very material improvements, particularly in the extensive addition to his hot-houses and pits, and in the vast number of new, rare, and valuable exotics he has added to his splendid collection: gives Mr. Floy credit for originating some of the most splendid varieties of new camellias; considers the Linnæn Botanic Garden of Messrs. Prince, taking it as a whole, not to be equalled, most certainly not surpassed, by any other he visited; and the establishment of James Bloodgood & Co., of Flushing, to have decidedly the best grown fruit trees he saw in America. For a description of Mrs. Parmentier's garden, he refers to a former number of the Magazine, in which a drawing of the plan is given. Many other gardens he gives a passing notice. The only one he describes at Albany is that of Messrs. Buel and Wilson, which at no distant day he presumes will be among the very first establishments of the kind in the United States. He is delighted with Dr. Hosack's place at Hyde Park, and says the Hyde Park on the other side of the Atlantic can bear no comparison with it.

At Philadelphia he notices the Nursery of Messrs. Hibbert and Buist, and has no doubt, with their additional grounds, that they will meet with ample encouragement from the spirited inhabitants of Philadelphia. The nurseries of Messrs. Landreth are well stocked with a most excellent collection of fruit and forest trees, which, as well as their rare greenhouse exotics, are grown in the greatest perfection. He declares a journey of 500 miles well spent, solely to see the various American trees in Col. Carr's Bartram Botanic Garden. Col. C.'s collection of American plants will equal any in the States. The gardens round Philadelphia are neatly kept; and some are laid out with great taste.

In December Mr. Gordon arrives in Charleston.

He says the last few years have wonderfully changed the features of gardening in that city. There are two seedsmen, Mr. James Wilson, and a relation of Messrs. Landreth, and but one nurseryman, M. Noisette, brother to the celebrated nurseryman of that name in Paris. Mr. Noisette's camellias are from 16 to 20 feet high. His Noisette roses are superlatively fine. Mr. Legare, the editor of the Southern Agriculturist, has done much by example and by his useful publications, in forwarding the science of horticulture in the Southern States.

At Savannah he found the garden of Samuel Young, Esq., to surpass all others in the South. Mr. Oemler, Lewis le Conte, Esq., and Major Le Conte, are men very credibly mentioned as amateurs of gardening, and great proficients in every branch of natural science. The last gentleman is publishing in Paris, a work on the lepidopterous insects of North America. The garden of Mr. L. le Conte, near Riceborough, 40 miles from Savannah, is decidedly the richest in bulbs that Mr. G. has ever seen; and their luxuriance astonishing to those who have seen them only in their confined state.

The next article of interest in the Magazine, is a Plan for heating hot-houses by circulation of hot water in hermetically sealed tubes of small diameter, by Mr. A. M. Perkins. This article is accompanied with drawings. Producing heat by hot-water is destined to produce a great revolution in the method of warming apartments. In a note, Mr. Loudon observes:

"But, however favourable this plan may be for heating hot-houses, the advantages for that class of structures are as nothing compared to those which it offers for heating dwelling-houses, and all kind of manufactories. This will be understood at once, when it is stated, that the water may be circulated, under ordinary circumstances of attention to the fire, at from 300 to 600 degrees; and, with extraordinary strength of pipes, and application of fuel, to a still higher degree. It is found that 400 degrees will roast meat. The workmen in the bank-note printing-office of Messrs. Perkins and Bacon have dressed a beef-steak at the farther extremity of the pipe of hot water used for heating the steel plates; and Mr. Perkins is constructing for himself an oven for roasting by water. It is easy to see, that, in a very short time, this will lead to extraordinary and most beneficial changes in domestic arrangements; and that, if we could get rid of our prejudices in favour of open fires, the smoky atmospheres of our great towns would be got rid of at the same time. Water at 500 degrees, or at least, water at 300 degrees, for the purposes of cookery, and for heating reserve cisterns of cold water, or masses of metal or masonry, for various domestic purposes, including warming rooms, heating baths, laundries, &c., may, at no distant time, be circulated by companies, in the same manner as gas; and, in London, instead of one fire for every room, as at present, there may be only one in a parish, or in every square acre in area. For the present, however, we shall not indulge in further speculations as to the uses to which this invention may be applied, but conclude by giving a description of Mr. Perkins' apparatus; and this we shall do, partly by copying, in his words, a part of his specification, as given in the Repertory for Patent Inventions for March, 1832 and by engravings made from drawings furnished by himself."

Among other articles in the Magazine, is one on Pruning Forrest Trees, which we shall in some future number copy entire, and give the engravings. We shall now proceed to take extracts from the Review part of the work, and make a few observations. In a notice of the Transactions of the Prussian Gardening Society, Mr. Loudon makes the following extracts.

On the use of Camphor in Horticulture.—Camphor is dissolved in alcohol until the latter is saturated; the alcohol is then put into soft water, in the proportion of two drops to half an ounce. Withered or apparently dead plants, put into this liquid, and allowed to remain there from two to four hours, will revive, if they have not been completely dead before being put in.

On the Propagation of Vines.—Cuttings are made from 1 and a half to 2 ft. in length, and all the buds removed from them except one at the upper extremity. The shot is then laid in the soil, to the depth of 6 in., the end having the bud being brought up to the surface. A vigorous shoot is made in the first year; and in the second year the plants, if not removed, will bear fruit.

On the preservation of Grapes and Plums.—At Berlin, grapes are preserved by cutting the bunch when ripe with about 1 ft. of the wood, above and below the foot stalk. The ends of the wood are dipped in hot pitch, to keep in the moisture, and the bunch is then hung up in a dry place. The Quetch plum is preserved till March by the following method: Gather them when perfectly ripe and dry; put them in a glass jar or bottle, closely tied up, and pitched so as to exclude the air, and then bury them in dry soil, 7 or 8 ft. deep, so as to be out of the reach of any change in temperature or misture. When taken out, they must be used immediately.

Peach Trees—A disease is often observed in peach trees, which occasions the shrivelling up and dropping off of the leaves in spring. This is supposed to be caused by the sudden changes in the weather checking the sap; and therefore retarding the vegetation of the tree is said to be an effectual preventive. The retardation is effected by laying bare part of the roots during the winter.

On Prunus cerasifera [the Myrobalan Plum,] as a Stock for Plums and Peaches.—After twenty years' experience, this vigorous-growing stock is confidently recommended. One of its advantages is, that it produces no suckers. It may be propagated either by layers or cuttings.

Mr. L. modestly notices his Encyclopedia of Cottage, Farm, and Villa Architecture, &c. Part 1, contains 12 lithographic plates, and upwards of 100 engravings in wood, price 10 shillings sterling. To be completed in eight additional parts of 5 shillings each, making a volume similar to his Encyclopedia of Gar-

dening and Agriculture. He recommends it to his American friends, as a most valuable book.

Under the department devoted to miscellaneous intelligence, we notice a drawing of Siebe's Universal Syringe. By a universal joint the cap can be turned every way, squirting the water perpendicularly up or down, horizontally or obliquely. "The price is only two guineas." We should suppose it might be made in this country for half the price.

The Family Washing-Machine has recently undergone an important improvement, by the addition of rollers for the purpose of wringing. We have seen one of these machines at Weir's manufactory, Oxford Street; and we must say that it afforded us sincere pleasure, to see an obvious and easy medium by which the labour of women, in washing, may be very greatly reduced.

At a meeting of the Horticultural Society of Berlin a discussion took place concerning the proper method of preserving seeds. Inclosed in tight but not hermetically sealed vessels, were considered altogether the best. At Zurich, apples of curious kinds were sold, some as white as snow.

"*Tamarisk* planted by cuttings in the spring, in driving sands on the seashore, will immediately take root; and the falling leaves, in a few years, will fix the sand. Sea-weed may be also collected and spread over the sand, which the stems of the tamarisk would hold in their place. Tamarisk may be cut every spring, and thus yield an annual profit: the wood is heavy, and good to burn."

The Ulex Hibernica vel stricta is sown in dry hilly places in Scotland, where in early spring it throws up copious crops of succulent roots, greedily eaten by sheep. It grows from cuttings.

Collecting Slugs and Snails by Cabbage Leaves which have been healed and greased —Sir, in clearer explanation of my plan, as described p. 149., I may say the cabbage leaves are not to be daubed all over with grease. I warm the leaves until they become quite soft, and I then rub a little bit of any sort of fresh grease between my hands, and this done, rub the most of it off on a cloth, and the cloth, and then give each leaf a clap between my hands, but very softly indeed, and then lay them in the places where the snails occur. *Peter Martin. Leeds, April 9*, 1832.

To put a stop to the Ravages which Caterpillars commit on Gooseberry Bushes.—In this neighbourhood several gardeners use the powder of black hellebore, wetting the bush first, then shaking on the powder through a dredging-box. I use, with great success, the flour of mustard seed in the same way, which is less expensive and less dangerous than the powder of hellebore.—*Id.*

SCIENCE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Ice and Electricity.

I shall here relate a fact to which I myself was witness, at Montpelier, and of which philosophers may advantageously avail themselves. On the 29th of October, 1786, four inches of water fell at Montpelier; a violent explosion of thunder, which was heard about four in the evening, and which appeared to be very near, caused a most dreadful shower of hail. At this instant a druggist, who was employed in his cellar in preventing the mischief occasioned by the filtration of water through the wall, was highly astonished to behold that the water which came through the wall was instantly changed into ice. He called in several of his neighbours to partake of his surprise. I visited the place a quarter of an hour afterwards, and found ten pounds of ice at the foot of the wall; I was well assured that it could not have passed through the wall, which did not exhibit any crack, but appeared to be in very good condition. Did the same cause, which determined the formation of hail in the atmosphere, act equally in this cellar? I relate the fact only, and forbear to make any conjecture upon it.—*Chaptal.*

I have seen no explanation of this phenomenon, but apprehend that the cause is the same which causes hail to fall so frequently among us. Water in its fluid state is always combined with caloric, when deprived of this caloric it is instantly reduced to ice, (its natural state.) Free caloric is everywhere diffused in the atmosphere, and the rain in falling, may imbibe a portion of it to keep it in the fluid state; when deprived of this, it is suddenly converted into hail, but here is an enquiry. Is caloric subject to the same law which govern the electric fluid? From the thunder which usually attends such phenomena, a suspicion of the kind might be excited, and I think is worth enquiry. Yours, AGRICOLA.

uly 31, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Showers of Chalk.

MR. EDITOR,—I some time ago noticed in a newspaper, an account of a shower of chalk in some part of Vermont. This is a phenomenon of uncommon occurrence, but not impossible I think. We know that carbonic acid, combined with lime, forms chalk, we know also, that carbonic acid is diffused everywhere in the atmosphere. Now if we suppose that lime may exist in an ærial form in this state, coming in contact with the carbonic acid, they would instantly unite and form chalk, but whether lime can be diffused in the atmosphere in such a state, is an inquiry which I think well worthy the attention of chemists.

Yours, &c. AGRICOLA.

July 31st, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Anchor Ice.

SIR —I have noticed in the Genesee Farmer, several communications concerning *Anchor Ice.* The natural state of water, is said to be ice; that water in it fluid state is combined with more or less caloric. Take away this caloric, and water is reduced to ice. Take a tumbler; on the bottom put a little sealing wax; on which set a phial so that it will remain fixed; fill this phial half full of sulphuric ether, cork the phial, and fill the tumbler with water, then set all

under an air pump, exhaust the air, then take out the cork from the phial and the caloric in the water will immediately combine with the ether and evaporate it, and the water in the tumbler will be instantly reduced to ice. This experiment serves to show the truth of the above doctrine. There are substances, called conductors of caloric, among which I would mention marble. If the hand be placed on a marble slab, it will feel cool because it extracts the caloric from the hand rapidly; now apply this doctrine to Anchor Ice. Most brooks contain stones, most of which are good conductors of caloric; these stones take away the caloric from the water, and reduce it to ice, which adheres to the stones, and is effectually anchored, whether it be in *right* angles of 60 degs. or not, (as the Genesee Farmer tells of.) I will not undertake to determine, but I believe the above remarks will account for the existence of Anchored Ice.

Yours, &c. R. M. W.

Middlesex, July 16, 1832.

HORTICULTURE.

Forest Trees.

Sir,—I have lately read with much pleasure, Washington Irving's article on Forrest Trees, in the first volume of his Bracebridge Hall, and would recommend its perusal to our farmers generally, with modifications.—I think it is peculiarly adapted to our own country. Most of our farms contain gullies and other spots, inaccessible to the plough; these, if transplanted with a few of the Yellow Locust, would in a few years afford an invaluable supply of the best fencing timber. This tree may likewise be set in every other length of crooked fence around the farm, and will in a few years furnish a plentiful supply of this invaluable timber, besides it is one of our best ornamental trees, and would add greatly to the beauty of our rural scenery. It is of rapid growth, and easily propagated and spread, and I think should be more generally attended to.

Yours, R. M. W.

Middlesex, July 18th, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Olives.

Mr. Editor,—Among the various objects to which our attention has been called by the Agricultural Journals, I have noticed none giving directions concerning the cultivation of the Olive. Our country embraces such a variety of climates and soils, that I should think, some might be selected properly adapted to its production. Its oil is an important article of food in most countries where it is produced, and large sums are annually sent abroad for this oil and the olives, preserved in salt and water. I think some information respecting its culture and management, might be obtained from some of the Italian, French or Swiss emigrants, and none, I think, could be more useful to our country.

Yours, R. M. W.

Middlesex, July 9th, 1832.

Large and Productive Apricot Tree.—A writer in the Horticultural Register, (Mr. Deas) gives the following account of a magnificent Brussels Apricot Tree, grown at Arundel Castle, Sussex, England:—

"It was planted in February, 1772, where it stands, and for two years did not grow above six inches: it is trained against a south aspect flint wall, and completely covers forty-eight feet long by twenty feet high: the stem, a foot from the surface, measures three feet three inches, it there divides into three leading branches. It is in the greatest health and vigour, and is completely covering wood, from top to bottom, and from one extremity to the other; although growing in about equal mixtures of black earth, clay and small chalk, it has not failed of bearing an excellent crop for a great many years.

'I last year gathered 1800 very fine ripe fruit from it, besides gathering for tarts and thinning out 5376, making the total number of fruit set on it in one year 7176, or 598 dozen. That number I counted myself, for I was anxious to ascertain the exact number."

Jerusalem Artichoke.

Mr. Fleet,—On most of our farms there are gullies and other spots, inaccessible to the plough. If these are planted with the Jerusalem Artichoke, and suffered to remain unmolested for three years, they will furnish for many years after a good range for store hogs in winter. The rooting of the hogs will serve to spread, and not to eradicate them, as the smallest piece will grow, and the summer season will recruit them for many years. R. M. W.

July 18, 1832.

Tree Mignonette.—At the Bury Horticultural Society's show on the 1st of May, a plant of tree mignonette was exhibited and greatly admired. Perhaps our readers generally are not aware that they, with a little attention, may soon possess themselves of a similar shrub, simply by training a plant of mignonette up a stick, and cutting off all the lower leaves and shoots, and never allow the plant to ripen its seed.—*English Paper.*

White tree Onion and Potatoe Onion.—These are very superior varieties, and will probably become the principal ones cultivated. The white tree onion produces a fine large bulb, of excellent flavour, and at the same time a cluster of small sets on the top of the stalk for the following year's planting. Thus rendering the sowing of seed unnecessary. From about six square rods, we this summer gathered eight bushels of fine large onions, and upwards of two bushels of sets for next year's planting. These onions keep remarkably well during winter, as ours were exposed to the whole of last winter's frost in a cold garret, and where they were frozen as hard as stones, without injury. When we consider the saving of time and trouble in raising sets from seed, this variety will be an acquisition.

The *potatoe Onion* is also a most excellent variety, and superior to all others except the white tree. Its flavour is very mild; it grows to a good size, and also saves the time and labour of raising sets from seed. —The onions are set in the ground in the fall or very early in the spring, in the same manner as common onions are planted for seed. In a short time the onion separates into from five to fifteen small bulbs, nearly

all of which grow to good sized onions in a few weeks, generally growing under ground, in the manner somewhat of Irish potatoes, whence the name.

The potatoe and white tree onions are fit for use from four to eight weeks earlier than any other kind.

TO THE EDITOR OF THE NEW-YORK FARMER.

Tour to Saratoga Springs.

Ill health induced me to make a short visit to this delightful retreat. The luxury of the precious waters, and the enjoyment of the many fine rural walks, together with the frequent little botanical excursions over hill and dale, soon restored my health.

Three years have passed since my last visit to the village of Saratoga. An improved mode of gardening is very apparent; almost every hotel has its garden—the United States, an extensive and profitable one, producing sufficient for the entire consumption of the establishment. The Pavilion, a spacious building, and a lovely spot, is supplied from its garden with an abundance of early and choice vegetables. The public table has been daily furnished with cauliflowers and broccoli, and to day, with a fine dish of Green Globe Artichoke and a plate of celery.

Attention is given to ornamental shrubbery. Their spacious and tasty buildings are rendered additionally lively and pleasing by hardy creepers, and also by forest trees, particularly the valuable sugar, maple, the beautiful elm, and the graceful Hacmatach. The hacmatack, Pinus microcarpa, as well as the Sasafras tree, is found in great plenty a short distance east of the village. [The hacmatack is rather the Larix microcarpa of Eaton, and the Larix Americana of Michaux, and consequently called the American Larch.] As the rail-road is now nearly complete to Albany, these pretty trees can be surely conveyed to New-York at a very little expense. Many of the gardens at the Springs exhibit good varieties of flowers; and a little attention in transplanting the fine indigenous plants, growing in the surrounding fields and woods, would soon make their collection beautiful and valuable. One or two miles from the Congress Springs, I found the following shrubs and plants. Spirea corymbosa, meadow sweet, growing in hedges; Pyrola rotundifolia, round or pear-leaved winter green, in woods; Sagittaria sagittifolia, arrow-head, wet places; Scuttillaria gracilis, sculcap, in do. Lysimachia ciliata, loosestrife, low grounds; Convolvulus spithameus, in woods; Epilobium spicatum, willow herb, in woods; Aquilegia canadensis, wild columbine, in do; Prunella vulgaris var. Pennsylvanica, heal-all, in do.; Ribes lacustris, wild gooseberry; Apocynum androsæmifolium, dog-bane; Sarracenia purpurea, side-saddle flower.

Let these, and many others easily obtained from the neighbouring swamps and woods, be collected and planted in the flower beds. Cultivation will soon improve them in appearance, and amply repay the trouble attending their removal. These native gems would be found valuable, not only as an exchange for florists from other parts of the Union, but when their beauties should become fully known, a ready sale would be found for them. They are in demand in other countries; all Europe values our native Flora—every section of our extensive country has been and is still being, explored. England and France have done much to bring horticulture to its present high standing. The agents and correspondents of their truly energetic horticultural societies, are found all over the globe, and plants, seeds and scions are transmitted. The example of Europe is not altogether unnoticed in America. Useful associations are spreading all over the Union. The Massachusetts Horticultural Society is of recent origin, yet its influence is perceived throughout the land. By establishing the Mount Auburn Garden and Cemetery, a stimulus not before experienced, is given to this pleasing science. If a taste for horticulture is, as is said, a sure indication of progress in refinement, Massachusetts must be pre-eminent among her fair sisters.

The Agriculture of Saratoga is much improved within the last ten or fifteen years. The wild appearance of the country has assumed a pleasing rural aspect. Most of the small saw mills are gone, and the circumstances connected with their erection do not exist. The fields are well laid out, and generally inclosed by good fences. At this time they look inviting—carpeted with green, or waving with the golden harvest. The wheat is fine; rye, barley, and oats are very good: hay generally good and abundant.

A short ride, a few miles west from Ballston Springs, afforded a passing view of one of the farms belonging to H. W. Delavan, Esq., consisting of about 300 acres. It is three or four years since I visited this place, but never witnessed, in so short a time, such magical improvements. The land lying between the road and the house, heretofore unproductive, is now by draining, &c., converted into the most productive soil, covered with heavy crops of grain and grass. The foreman of this estate estimated this land to produce from two and a half to three tons per acre, and the whole farm, to cut three-hundred tons of hay. It is a short time since Mr. D. was known as one of our most enterprising merchants. He retired wealthy to his farm. His example is worthy of imitation by our rich merchants—it is the way to enjoy health and not decrease wealth. Active mercantile operations shorten life, rural operations prolong it. When enterprising, intelligent gentlemen engage in such pursuits, and are found, like Mr. D., not above their business, but ready to take part in all the different operations of the farm, it tends to place the profession of a husbandman where it should be,—at the head of all professions.

Many other fine farms are in this neighbourhood, but my limited time would not allow any thing more than this bird's-eye sketch.

A constitution for an Agricultural and Horticultural Society, is to be laid before the people of this country, on the 17th day of October next, at Ballston Springs, at which time and place, a fair will be held, for the exhibition and sale of domestic animals. This is a grand move towards usefulness; and every tiller of the soil should be emulous to have it in his power to back the acts of such a society, by becoming a deeply interested member.

Agriculture needs fostering—united efforts will do much; the successful practice which, at present, is known or imitated by comparatively few, will, by means of Societies, soon become general, and incorporated with the habits of the people. Farmers generally, have much to learn; reading and intercourse will do much. We have several good and valuable periodicals devoted to rural affairs, and it is *much to be regretted* that they are not *more known and better*

patronized by this great nation of farmers. A little money could never be better bestowed than on one of them; and those that are able, should take the New-England, New-York, and Genesee Farmer. The subscription to them would be only $7 50. One single item of information will frequently pay a whole year's subscription. Cincinnatus was satisfied with "the good old way," when using a limb of a tree for his plough beam, and a knot to it for his coulter and share. The patriarchs felt equally complaisant when viewing their pestles for grinding corn, as an evidence of their advancement in the arts. Reading, observation, and societies, may still improve the plough, and will most assuredly, introduce improvements in every mode of field culture.

The intended Society will embrace horticulture, as well as farming. This is as it should be. A laudable spirit for rural improvement seems diffusing throughout the union, and this county is evidently disposed to assume an honourable standing. The consequence will be the introduction of improved varieties of fruit, and garden esculents. The rivalry between Ballston and Saratoga will be of a pleasing nature, and do much to improve the taste in rural and architectural designs. No two villages are more favourably situated for a contest in landscape scenery. Nature has done most for Ballston, but Saratoga can court the power and enchantment of art, in imitation of nature. Taste equally correct, and attention equally great, will do more for the former than the latter, and at a less expense. From the spirit that now prevails, and from the advancement already made, it may be difficult to decide which is to be pre-eminent.

My ride to the springs was through Waterford, by what is called the river road. About a mile north of the village, a large patch of Canada thistle was noticed, by the road side, going to seed. Why is this great nuisance suffered? Is there no method our legislature can adopt, to keep our well-settled counties from this disgraceful and injurious weed?*

Wherever good factories are placed among farmers, wealth and prosperity are seen to follow. The plough feeds the shuttle, and is clothed by it. The great improvements around the brick factory at Mechanicsville, which factory daily makes 1200 yards of good substantial sheeting, are strong proofs of my position. A short distance south of this flourishing manufacturing establishment, is the residence of Mr. Strang. Report speaks well of his 500 acre farm, and of his judicious culture. In passing it, the eye glances at much to admire—many fine fruit trees, and 4 or 500 thrifty grape vines.

A little to the north of this factory, is the residence of Mr. Bloodgood. On the north side of his house is a large and good garden, plentifully stocked with excellent vegetables, and small fruits. His well laid out lawn, with a few more trees, may be considered a model for the county. On the west of the house is a small wood of native forest trees, appearing as if planted expressly to beautify the mansion.

Slab City.—I was led to inquire the name of this place, from seeing a large field substantially inclosed by a stone wall, containing nothing of any consequence, but detested Canada thistles going to seed, and sufficient, in appearance, to crop several townships. This sight, together with a rough road, destroyed the pleasing sensations produced by the previous scenes. The disagreeable reflections in which I was indulging were very gratefully relieved by the sounds of a 'big wheel.' Looking to the South, I observed two young women, actively employed in spinning, and rendering the stillness musical with their vocal strains. The buzz of a big wheel, and the hum of a bee-hive, have always been music to me. This kind of female industry tends to make families independent and happy. We seldom see broken windows and neglected door-yards, where the 'family harp,' as my worthy and enlightened friend, Dr. Spafford, appropriately calls the big wheel, is heard. When the valuable art of reeling silk from cocoons is fully and generally understood, female industry will be as well rewarded as it is lovely. Every farmer, should this fall buy a few mulberry trees, and thus begin to provide for his household. A. W.

* The writer should have endeavoured to ascertain the name of the farmer, adjoining whose land the thistles were, and given it to the public.—Ed.

THE FARMER.

August 31, 1832.

EDITORIAL CORRESPONDENCE.

LETTER XXVIII.

Gardens of Albany.—In the few and crude remarks I may make, in reference to ornamental gardening, connected with architecture, I am far from calling in question the taste of any person, but would merely wish to point out some existing defects—defects originating from custom, from circumstances, and from inattention to the objects attained by consulting appropriateness.

After leaving Mr. Delavan's garden, in the same direction from the city, is Judge Buel's, nearly two miles from the capitol. This establishment consists of about seventy acres; part devoted to farming operations, under the exclusive control of Mr. Buel, and the remainder to the culture of fruit, forest, and floral plants, under that of Messrs. Buel and Wilson. There is a great diversity of soil and surface, rendering it comparatively favourable for picturesque effect. The approach to Mr. Buel's dwelling, from the city, is sudden. The large gable-end of his house, which is of brick, meets the eye as the most prominent object. This, from the circumstance of the house having been erected at two different times, is disproportionate; and, in which consists the greatest fault, is left unconcealed by trees. The lawn, or door-yard, next invites attention. It consists of a narrow space in front of the house, extending towards the city, enlarging to include the depth of the house, and embracing about one acre. The family garden is on a declivity, facing the street, and partly in rear of the house; but seen in its extent, the manner in which it is laid out, and its floral display, a few ornamental trees to obviate the objection to the exposed part of the house, would make the garden more retired, and vary its scenes. The front, which, on

on account of the disproportionate ends, would look narrow, is made to appear more so, by being concealed with ornamental forest trees, and flowering shrubbery. The design in finishing the front, more than the sides or rear, is, that it may be seen—that it may be an ornament. Hence, as a general rule, the front should be unconcealed. Another instance of the violation of this rule, may be observed in the position of the trees before the house of Judge Ten Eyck, a few miles south-west from Albany. In riding past, a very extended, and as I understood pretty, front is observed as its characteristic, as though a wing was on each side of a central building; but the very abundant foliage, and dense shade of numerous horse-chesnuts, Aesculus hippocastanum, scarcely afforded the least glimpse of it. The road winds around the garden adjoining the end and rear of the house. The end, which appears like that of a common frame building of less than ordinary depth, is entirely exposed to view, and consequently, the house viewed from this quarter, conveys no idea of a mansion, as it is called, from its size, the hospitality of the family, and as being connected with incidents of the Revolution. The back part seems deficient in foliage for the desirable retirement of the family.

To return to Judge Buel's. The passage to his out-buildings from the street, is by a straight opening or lane, along the other end of the house, continuing past his wood-house, two barns, and over a rise of ground into the nursery, and affording, it is true, not an inconvenient ingress and egress, but conveying nothing ornamental or pleasing in the aspect of the premises, and nothing introductory to the nature of the establishment. Those that had heard of the justly-acquired celebrity of the Albany nursery, of the wealth, and intelligence of Mr. Buel, his enlightened zeal in the cause of horticulture, and had known that he was perfectly familiar with the progress of ornamental rural culture in Europe, would, in travelling west from Albany, be unable, although they would see a good substantial house, and a numerous variety of plants, to determine with certainty, that this was the residence of Judge Buel. To illustrate my meaning—that in which I conceive Mr. Buel's place to be deficient, I will relate an anecdote of the venerable President of the New-York State Agricultural Society. He met some friends who had been to see his place, (in France, I believe) in his absence. They began to extol the beauty and grandeur of his residence, in what he conceived to be ironical or hyperbolical terms. What is it, gentlemen, said he, you so much admire? Not the house, which is small and old? No, said they; not particularly the house. Certainly not the green-house, and other out-buildings, which are also old, and some of them antique and ill constructed? No, sir, we do not know that it was these. Neither, I suppose, could it have been the great rarity and splendour of the ornamental and flowering plants? No, sir, it was not, we believe these. What, then, my friends, was it, you so much admired? Why sir, said they, after some hesitation, we do not know—we only know we were pleased and delighted—your residence is a lovely and magnificent spot.

Every one will perceive that it was the laying out of the grounds, and the arrangements of the lofty trees, and flowering plants, concealing every thing disproportionate and uninviting, and bringing into view all that was pleasing and beautiful, that excited the admiration of the visiters.

The rail-road from Albany to Schenectady passes through Judge Buel's property, dividing the greater part of the nursery from the farm. A tunnel or arch connects them. The whole distance from the latter city to the nursery is an uninterrupted barren plain. In riding on the rail-road towards Albany, you suddenly come into full view of the nursery, and considerable part of the farm. The first object that would strike and delight the eye, would be Mr. Wilson's house, if it was painted white, instead of a dull red. It is built on the very margin of a dark-shading wood of large pines, consequently in its colour, affords no contrast. In connection with his green-houses, he has every thing he could wish to render the view of his residence from the rail road, highly beautiful and charming. As yet, Mr. Wilson has given us no favourable idea of the exterior beauty and loveliness of an English cottage. This does not arise from deficiency of taste, as some of the handsomest laid out gardens in this country will testify; for instance, I would refer to that of P. S. Van Rensselaer, Esq. of Albany.

Well persuaded am I, that if Judge Buel should now have the laying out of his grounds, and the erection of his dwelling and out-buildings, he would produce an effect incomparably more striking and pleasing, at a less expense, and without the sacrifice of one of the conveniences now enjoyed. Should he, devoted as his establishment is, to the culture and sale of forest and ornamental plants, have an opportunity to display his taste, he would advance this country half a century in rural architecture. Let those who pass by, and who visit the premises, see the beauty, and experience the power of a tree to produce emotions, when variety of form, foliage, and flower is brought into a natural and tasteful combination with simplicity and elegance of architecture, their desires for rural charms will be increased, and consequently there will be a greater demand for plants.

Albany, June 10, 1832.

Manual Labour Schools.—*Oneida Institute.*—We have, in first vols. of the N. Y. Farmer, particularly called the attention of our readers to the importance of these schools. It is easy to perceive that the influence of these schools in advancing agriculture and gardening, is destined to be very great. Independent of innumerable other benefits flowing either directly or indirectly from them, the resources of our country will be vastly augmented through their immediate and remote agency. The following we take from an article in the N. York Observer:

The Oneida Institute is located at Whitestown, directly on the Erie Canal, about four miles from Utica:—has been in operation three or four years—carefully extending its operations only so far as actual experiments showed it expedient so to do. It is under the control of a board of Directors, organized by charter from the Regents of the University, and now holds a farm of about 100 acres, cultivated by the students, and yielding nearly their entire support,—wheat flour and groceries only excepted. The diet of the students is very simple, consisting chiefly of milk, bread, and other farinaceous preparations: animal food is used, I believe, only once a day: and several of the students dispense even with this, much of the time. Besides raising hay and grain for the cattle, the students cultivate vegetables for the market at Utica, and on the canal, contiguous to which the land lies. Last year, as I understand, vegetables were sold to the amount of $500, and this year they expect to realize about $1000 from their garden. On their lands they have already erected three buildings, sufficient to accommodate about 100 students, besides furnishing appropriate apartments for a refectory, for recitation rooms, a chapel, a library and reading room, as well as accommodations for a superintendant, his family, and the requisite number of domestics to carry on the processes of washing, cooking, &c. &c.

There are also sundry workshops in which the students work at various trades according to their ability, some being employed as carpenters, others as saddlers and harness-makers, others manufacture joiners' tools, some work as blacksmiths, &c. Most of the students employed as mechanics, receive cash for their labour, and pay a stipulated price for their board, washing, fuel, &c.

An admirable plan has been some time in operation to determine the amount earned by each student daily and weekly. The decision is made by a committee of the best workmen among the students, in conjunction with the superintendant. The full value of his labour every one is sure to receive, and hence there is the strongest inducement to industry, and the exertion of all the skill a young man possesses. To show the practicability of the system as pursued in the Oneida Institute, I will state facts which I have learned from unquestionable authority. Last June, a young man left the Institute who had been there two years and a half; he worked as a carpenter. When he entered he brought $45 in cash; when he left he took with him $35 in cash, and $10 worth of books; having supported himself during the whole two and a half years by his labour as a carpenter, paying for his board, tuition, room rent, fuel, &c., and having received help from his friends to a small extent only, and that in clothing. None sustained a better character for sholarship than he. Rare, indeed, has been the instance in which a young man could not pay at least for his board, by his labour; many have paid also their tuition, and some few superior workmen have done much more. One thing is highly gratifying at this Institution; needful labour of every description is cheerfully performed by each student. Go round the premises during the hours for labour, and you will see some weeding in the vegetable garden, others hoeing corn or potatoes, others labouring in the work-shops, others at the wood pile, others busily employed in attending to the cattle. It is acted on from principle, that nothing shall be accounted disgraceful, which is necessary or useful; nothing, in short, but sin.

Obituary.—*Horatio Gates Spafford*, L L. D.—Mr. Fleet,—In a communication sent you from Saratoga, dated July 23, pleasing reference was made to the "Country Farmer," of Dr. Spafford. On leaving home, my friend was in apparent health in the midst of his truly worthy family. He now is cold in his silent grave. It would seem as if "death keeps no calendar;" neither registering time nor regarding merit. Horatio Gates Spafford, L L. D., departed this life yesterday, August 7, in the 55th year of his age. In the death of this talented individual, the friends of Agriculture and general science, have reason to lament the loss of an efficient co-labourer, and his fellow citizens an eminently useful member of society, and a distinguished philanthropist. In the varied social relations, Dr. Spafford was distinguished for disinterestedness and humanity, and his conduct was marked by a rigid adherence to the requirements of honour and integrity. In his intercourse he exhibited an uncommon urbanity of manners towards all. In public life, his powers were faithfully devoted to improving the condition of his fellow men; the diffusion of intelligence, and to the advancement of the sciences and the arts. His mind was richly stored with information; and his conversation, the pleasures of which none who have enjoyed it can forget, was replete with original thought and striking sentiment.

His fellow-citizens are indebted to him for several valuable works, among which are a Gazetteer of the State of New-York, and a Pocket Guide for Tourist and Traveller along the Line of the Canals. Very few men have been more liberal contributors to the periodical press. He was a very ready writer; in consequence of conveying his thoughts on paper with much ease and great rapidity, his writings may have on some occasions, been considered prolix; yet his style was natural and lively, and his language powerful. As a statistical and agricultural writer, he may be considered a good model, except where giving way to the ardency of his feelings, he inappropriately introduces opinions and sentiments. His correspondents and personal friends were numerous, and embraced many distinguished and learned men in Europe, as well in his own country.

The perfect composure with which he met the king of terrors, and the freedom with which he had been accustomed, on proper occasions, to speak of the scenes of another world, showed, that by reflection,

he had made himself familiar with death. All his hopes of happiness were founded on his belief in the inspiration of the Christian scriptures:

"Death's arrow flies unerring to its prey;
The social circle sits involved in gloom,
And man, in thought, a very God to-day,
To-morrow moulders in the silent tomb."

A. W.

Lansingburgh, August 8, 1832.

GARDENER'S WORK FOR SEPTEMBER.—The sowing season being principally past, as well as that for propagating plants by inoculation, laying, &c., the gardener is left to make preparations for the fall operations. His grounds are to be kept free from seeding weeds, and to be put into a proper condition by the incorporation of suitable manures; and if necessary, to have the consistency of the soil varied by the application of sand or clay.

Cauliflower.—The seeds of the early kinds should be sown about the middle of September, in a bed of clean rich earth. In about four weeks, the plants should be pricked out, put into another bed, at the distance of four inches every way, shaded and watered until they take good root. This bed should be surrounded with a garden frame, and covered with glazed sashes.

Cabbage.—The early kinds of spring cabbage may be managed as cauliflowers, with the exception of requiring so much protection.

Corn Salad, or Fetticus, should be sown early this month, in a rich soil, and the plants covered with straw on the approach of severe frost.

Cress, for salad, as well as mustard and rape, may also be sown during this month.

Lettuce, of the hardy kinds, are sown from the first to the middle of the month.

Welsh Onions, Alium Fistolosum, are cultivated for spring salad. The seeds are sown early in September.

Radishes, of the most esteemed kinds, may be sown during this month.

Shallots, Allium Ascalonicum, are propagated by planting the bulbs or offsets early in September. They meet with a ready sale in April and May.

Mushrooms.—This is a favourable season to make the beds.

Herbs, medicinal and aromatic, should be gathered and carefully preserved.

Plants, of the herbaceous kinds, may be increased by parting the roots, and perennial and biennial flowering kinds, raised from seeds, may, if of sufficient size, be transplanted. Flowering and evergreen shrubs, by careful management and watering can also be taken up and set out.

Strawberries should be transplanted. The runners or seedling plants are to be preferred. See vol. 4· page 204, vol. 5, page 158, 182, 208, 222. Red Monthly, vol. 1, page 28, Cultivation, vol. page 8, New method of cultivating in England, vol. 2, p. 270.

Seeds—Great pains should be taken in saving garden seeds. Not every plant of the same variety or species, produces equally good seed, nor one part of the same plant as good for a particular purpose as another. Observations and experiments must direct.

FARMERS' WORK FOR SEPTEMBER.—The calls of this month are not as urgent as those of the two last. The farmer has now time to reflect and think. He begins to prepare for winter—to make arrangements for the comfort of his family and his live stock.

Potatoes—These when dug, should not lie exposed to the sun, nor drying winds—should be immediately put in the cellar or under cover, with as much fresh earth adhering to, and mixing with them, as will keep them rather moist than otherwise.

Fruit.—Those who have good fruit, should endeavour to render them of some account. Send them to market in fine order. Apples, peaches, plums, pears, and grapes, sell readily, if they are good varieties, and exhibited in a clean and attracting condition.

Fruit Trees.—Farmers who wish to benefit themselves, their neighbourhoods, and the succeeding generation, should send the last of this month, or the next, to the nurseries, for one of each kind of the very best variety of apples, pears, plums and cherry trees. The succeeding summer, they should persuade their neighbours to *buy* (not to *beg*) buds for inoculation. They will thus, in a few years, have the credit and pleasure of having introduced and made common, the choicest fruits the world produces.

Barn-yards.—After the manure is all carted into the fields, every farmer should examine the nature of the ground. If it is porous, he should by all means cover it with clay, well pounded down. First, however, he should regulate its surface. Judge Buel recommends the middle to be the deepest, that all the water may centre there. Should, however, the position of the sheds, doors and gates, be such that it would be convenient to have the greatest depth on one side or in a corner, it should be thus arranged. If time and circumstances will not permit the surface to be varied, a hole, as large as convenient, and one or two feet deep, should be dug, the bottom clayed, and little trenches, from every other part of the yard verge to it. Farmers will by this plan promote the comfort and thrift of their cattle, increase the quantity, and preserve the quality of their manure.

Hogs.—Practical farmers differ very greatly in their estimates of the profits from fattening hogs,

Some say they can get more for the corn they give to their hogs, than they can for the pork; others are of a different opinion; and yet all keep and fatten hogs, and most of them in their customary way, profitable or not. We have known many who take no pains to advance their hogs, until they '*begin to fatten*' them, and then to feed out their crop of corn until it was all consumed. If hogs are kept in a thriving condition in the months of July, August, and September, one would suppose, that comparatively a small portion of the corn crop would make good solid pork. Most excellent pork, farmers must recollect, is made in England without Indian corn. Loudon says, that arable farmers who fatten swine for bacon or flitches, "rear them chiefly on raw potatoes and Swedish turnips, and fatten them on these roots, boiled or prepared by steam, with a mixture of oats, barley, or bean and pea meal. Their troughs should be often replenished with a small quantity of food at a time, and kept always clean; and their food *changed occasionally*, and seasoned with salt." Independent of good green clover thrown into their pens, sweet apples, slightly fermented potatoes, and bran with a little salt, pumpkins, &c. &c., are recommended. Sufficient room, ventilation, and dry lodging, are of the greatest import. Judge Peters says, hogs "show a disposition to be cleanly, however otherwise it is supposed, and always leave their excrementitious matter in a part of the pen, different from that in which they lie down. No animal will thrive unless it is kept clean."

Wheat.—This, as every farmer knows, is an important crop; great pains, therefore, should be taken to obtain the greatest possible yield, and a superior quality. Mr. James M'Call, in the Memoirs of the New-York Board of Agriculture, details some very nice and satisfactory experiments on the efficacy of lime in preventing smut. He washed his seed wheat, and put about 3 pints of lime to each bushel, mixing it well, and letting the heap remain 12 hours, before sowing. Botanists enumerate seven sub-species of wheat, or triticum. The varieties are almost endless. In England, the thin skinned white wheats are considered 15 per cent more valuable than the red. The rule for selection is, to sow that variety which is known to succeed best, in a climate and soil like that in which it is designed to be sown. Animal substances, lime, and ashes, are considered the best manure for wheat. The quantity of seed depends on the time it is sown, and the quality and preparation of the soil. Sown early and in rich soil, less is required. The quantity is from 1 3-4 to 3 1-2 bushels per acre—very seldom should it be less than 2 1-2. Rolling after sowing should never be omitted in this climate, where so much is injuredby frost. Spring rolling is also of great service.

Clover Seed.—We believe farmers of this country generally sow their red clover in the fall, previous to the last harrowing of the wheat or rye. The quantity depends on that of other grasses sown with it, the richness and pulverization of the soil. In England eight or ten pounds are considered the minimum quantity for hay. As many as fourteen pounds are often sown. When pasture alone is designed, a less quantity of red clover is necessary.

Insects.—Good culture is a preventive of insects. Tar is said to be offensive to butterflies and moths, preventing them from laying their eggs on the plants under which it is placed. It is also said that they will lay their eggs on shreds of flannel tied to the plants. Saline substances are injurious to most insects. Water heated to 200 will not injure leafless plants, and will kill many kinds of insects. Insects in the perfect state should be destroyed. Children should be given a certain price for every hundred butterflies they kill. If they carefully preserve the most beautiful, they will sell to naturalists. Thousands of caterpillars and injurious insects are thus prevented from having an existence.

Pruning.—Nature and reason teach that pruning off many limbs at a time is injurious. See vol. 3, p. 7.

The Harvest in Europe.—The information relative to the prospects of abundant crops, is favourable. In France and Ireland particularly, the crops of all kinds are generally very promising.

Agricultural Societies.—We have been expecting to hear of the steps taken by the members of the General Committee of the N. Y. State Agricultural Society, in the Southern Counties, towards the organization of County Societies. There is a general disposition among farmers generally, to countenance such associations; and it only requires the exertions of a few spirited individuals, to bring into successful operation, societies that will be a lasting credit to them, and sources of much benefit and prosperity to the counties.

The Crops in Tennessee.—The Washington Republican, printed at Jonesborough, Ten., under date of August 25th, states that

"The crops of wheat and rye this year, so far as we have learned, were more than usually abundant, in proportion to the quantity sown,—but the early winter last year, prevented the sowing as much as usual. The hay crops, both of timothy and clover, were fine. But in consequence of the cold and dry weather, in the early part of the season, the corn crops, except on the river bottoms, and fresh or improved land, are likely to fall far short of those of preceding years. Many fields of old and unimproved land it is said, will not produce more than one, two, and three bushels to the acre, and we are informed

that this is the case for a considerable distance to the West. We have no doubt corn will be very scarce next spring, and it behoves the farmers to use it with the greatest economy. The experience of this year, should impress on our farmers the vast importance of improving their soil.—We have seen fields, which, a few years ago, were entirely exhausted, but which have been renovated by plaster, clover and manure, bearing excellent corn, while others in the same neighbourhood, which have been treated in what we regret to say, in the usual way, that is, constant cropping, and an entire neglect of the means of improvement with the same season, and apparently better worked, will scarcely return in the seed planted. If land be kept in good heart, few seasons are so unpropitious, but that by the aid of deep ploughing, and judicious cultivation, they will produce at least tolerable crops of corn, while exhausted lands, with the most favourable seasons, and the most judicious cultivation, will scarce remunerate the farmer for his labour, and in unfavourable seasons, they produce almost nothing.

To remove the taste of Garlic from Milk.—Hot water stirred with the new milk, will generally cause the substances that give a disagreeable taste to evaporate.

Milk Powder.—Fresh milk slowly evaporated over a fire will produce a dry-powder. This is to be put in a bottle and closely corked. When wished for use, a suitable quantity is dissolved in water. It will, it is said, have the taste and all the properties of milk.

Antidote against Vegetable Poisons.—Aaron Gilbert, of New-Lebanon, says, in the Journal of Commerce, As soon as the poison manifests itself, and before the blistering takes place, rub the parts affected with the bruised roots of bell-wort, Urularia perfoliata. If the blistering has taken place, bind the roots on, and keep them moist. A decoction of the leaves, or, which is better, of burdock, and American sarsaparilla, is recommended as a drink in addition.

American Citron.—The editor of the American Farmer gives the following receipt for preserving American citron, a small kind of watermelon. The receipt was obtained from the ladies of the family of Charles A. Barnitz, Esq., of York, Pa.

"Pare the dark green from the outside, and scrape the soft from the inside of the melon; cut it in different forms, boil it in alum water until clear; throw it into spring water, where it may remain two or three hours, changing the water frequently. To one pound of fruit take two of sugar, make a syrup of half the quantity of sugar, and boil in it all the citron until done, when it will be transparent. At the expiration of two or three days, take the jelly from it, add the remaining half of sugar; boil and pour it over the citron, which will be ready for use. Season it with ginger; sliced lemon is preferable."

To Preserve Common Watermelon Rinds.—The following receipt was obtained from the same source:

'Scrape all the soft from the inside, and the dark green from the outside; cut it in any form you fancy, and throw it into cold water until you boil some alum water, into which put it, and let it boil two hours and a half; then put it into cold water again, and boil some strong ginger tea; in which it must be boiled two hours and a half; then put it into cold water till your syrup, (which must be pound for pound) is made and strained, then lay in the rind, boil it two hours and a half, or longer, if the green is not handsome. Put it into glasses the next day.

Green-Corn.—The editor of the American Farmer cultivates a variety of table corn.

"It is about three weeks earlier than the early yellow, or golden sioux, sugar corn, or indeed any other variety we have seen. The grain is very white and of exceedingly fine flavour. The ear is not quite as large as some other kinds, but the grain is much larger than the early yellow. The stalks seldom grow higher than four feet to the top of the tassel, and we plant it from two to two and a half feet apart from hill to hill. We call it "earliest white corn."

Frost.—On Friday night, the 25th ult, some of the most tender plants were slightly affected by a frost. The effects were observable in the vicinity of New-York, and at several places along the Hudson.

Chinese Silk-Worms.—Dr. James Mease gives, in the American Farmer, an account of his experiments with the Chinese silk-worms, recommended by the previous experiments of Professor Giovanni Lavini. Dr. Mease found them much more troublesome to manage than the common silk-worms, and 1200 cocoons required to make a pound, where only about 200 from the common ones balance them. The cocoons too, are much more difficult to reel.

Rhubarb.—Gideon B. Smith, Esq. in a communication to the Southern Agriculturist, says that the crown of the root should be set about one inch below the surface of the ground, in a soil made rich by well rotted stable manure. The leaf stalks are stewed, with their weight in sugar, and made immediately into tarts, or put away in stone, or glass jars for future use. Mr. Smith thinks blanching the leaves injures their flavour. He has found, by frequent experiments, that the tarts, and the conserve, are a sovereign remedy for the cholera infantum, or summer complaint of children. This plant is difficult to raise from seed, which are sown in February. The best method of obtaining them is to buy old roots in the fall, and propagate from them by offsets. They can be had from 25 to 50 cents each.

Seeds and Cuttings.—*Dear Sir*,—In your last number of the Horticultural Repository, you express a wish that your friends and subscribers would supply you with seeds of native forest trees, &c. as also cuttings of some choice seedling apples.—The former part of your request, I believe we have nothing in this part of the country worth sending, except such as are scattered in abundance all over the middle and eastern states, and which are doubtless by this time plenty, even in Europe. But with the latter part of your request, I intend to comply, if you will name some careful person in Philadelphia to whom I can send the cuttings, that will forward them to you. We have three or four varieties of Apples, (some of them before noticed in the Farmer, all of which I have transmitted to Mr. Prince) that in in my opinion rank secondary to none, as table apples. I wish I could exhibit them to the N. Y. Horticultural Society, *fresh from the tree*. Their superior knowledge of fruits would, I think, enable them to make them known as they deserve to be. They are as yet not much known, except in this immediate vicinity, and are doubtless all seedlings of perhaps twenty or thirty years since their origin.

If at any time I can render you, or through you, a friend to Horticulture a favour, by sending grafts, seeds, or any thing of the kind, I shall always consider it the greatest pleasure that can possibly fall to my lot—excepting, the additional gratification of having similar favours reciprocated; and I will also request of you as a particular favour, (though you will only attend to this if convenient and agreeable) to obtain from the New-York Horticultural Society occasionally any rare seeds, or cuttings, of which they may have sufficient to spare a few to a distant friend. I will send you grafts sufficient to present some to the Society. Those seeds lately distributed by the society from Persia and Turkey, I would have considered a treasure, had I been so fortunate as to come in for a share.

Last fall I was favoured by a friend, Felix Pascalis, M. D., with upwards of twenty different kinds of West India seeds, of which I have about the one half growing vigorously, but unfortunately, being in the fall of the year, and not being provided with a hot-house, I failed with those particularly desirable, such as the Yamia, Ficus Elastica, Achras, Logwood, &c. Though I sustained a few of each till spring, they had most of them lost their vegetative powers. If I could have had them fresh in the Spring, I have no doubt I should have succeeded with all of them, want of experience with tropical seeds, also was another disadvantage, which I would now know how to remedy. Should you find it convenient to favour me with seeds, &c., at any time, you may transmit them to the care of J. F. Heinitsh, Lancaster, through the Messrs. Landreth of Philadelphia.

Yours most respectfully,

JACOB B. GARBER.

Columbia, Pa. August 13th, 1832.

P. S. I shall have a considerable quantity of the "Chenopodium Quinoa," or small Peruvian rice this fall, and can send you some of the seed if you wish it.

Remarks.—The above was not, we suppose, intended for publication, yet we publish it, hoping many others will be equally anxious to give and receive. We have written to Mr. G. and shall ever be happy at all times, to reciprocate favours—should be pleased to have his rice as well as cuttings.

Newburgh Horticultural Society.—The following officers hsve been elected for the ensuing year.

REV. JOHN BROWN,	President.
D. RUGGLES,	1st Vice President.
B. LUDLOW,	2d do.
A. BELKNAP,	Treasurer.
J. W. KNEVALS,	Corresponding Sec'y.
E. SANXAY,	Recording do.

The 13th day of September is fixed for the celebration of the anniversary, when the usual exhibition of vegetables, flowers and fruit will take place.

Cutting Corn Stalks.—Mr. Wm. Clark, of Northampton, Mass. detailed, last March, in the New England Farmer, some experiments, very carefully performed, on cutting corn stalks. The results were, that about *one-fifth* of the crop is lost by cutting the top stalks, before the corn is fully ripe. This is the season for farmers to try the experiment.

Improved Varieties of Corn.—The editor of the American Farmer details the following interesting experiment, made by himself. For the purpose of improving Indian Corn, he, last year, impregnated the pistils (silk) of the large white Tuskarora, with the pollen of the golden Sioux. 'The result,' says he 'was a perfect hybrid between the two. The grain being a pure brimstone colour, of the size and form of the Tuskarora, and like that with eight rows on the cob. It was a most beautiful variety of corn; partaking of all the good qualities of both, without the disadvantage of the large cob and small grain of the golden sioux. We planted this corn last spring; the stalks were very dwarfish, resembling those of the sioux, and the corn very early fit for use. It is now ripe, however, and on examining it a day or two since we find that the two original colours have separated, and instead of the brimstone colour, we have on every ear, grains of the bright yellow sioux, and the pure white Tuskarora; but the quality of the corn is evidently superior to either of the original parents, although the colours have resumed their original tints. This is, to us, a singular circumstance, and one which we are unable to account for. The only thing analogous to it we have read of, is the proposition advanced by an able writer some time since, in the columns of the Farmer, that the offspring of cross breeds of animals, would, instead of partaking of the mixt character of their immediate parents, assume that of one or the other of the original progenitors. How far this proposition may hold good with animals we do not know, but it certainly appears to be the case in the vegetable world, at least so far as the fact above stated warrants the formation of an opinion.

There is a good deal of difficulty in reconciling the above fact with the law of nature, which requires two parents for the production of every organised being, animal or vegetable. If the two kinds of corn which were combined in the hybrid have again dis-

tinct varieties, they are each of them the produce of but one parent—the Tuskarora is the produce of a female parent exclusively, and the sioux that of a male parent; for it must be recollected there was no male Tuskarora nor female sioux present, eitheir during the origin of the hybrid, last year, or the subsequent culture and separation of varieties this year. Yet we know, that if we deprive the corn of either the male or female flowers, (tassel or silk,) there will be no corn formed on the cob. How then are we to account for the present fact of the separation of the two varieties?

Agricultural Fair.—The annual Fair of the Hamilton Co. Agricultural Society of Ohio, will take place on the 26th and 27th of September.

Bricks for Green-House Flues.—At the Salamander Works in New-York, are made bricks for the tops for the green-house flues, with a circular basin or hollow on the upper side, which will hold about a pint of water each. When the flue is heated the water is evaporated, furnishing, when the number of bowl bricks is sufficient, any required degree of moisture. We should suppose this method would answer, in a very considerable degree, as a substitute for watering green-house plants, and serve to equalize the temperature. We intend to make the experiment.

Seed Wheat.—Mr. J. Lake, of Greece, Monroe Co., N. Y., advertises from 800 to 1000 bushels of White Bald Indiana wheat, which he considers the best sort now in use. The growth is similar to the old kind of red chaff, but fills much better. Some farmers are acquiring a reputation, and consequently an income, for a superior breed of sheep, others for that of cattle; some are known for their success in rearing fine horses; others as having much improved breeds of swine; some again, by great pains, obtain excellent grain, which sells for a good price, and others originate superior varieties of fruit. How wide is the field before the enterprising and thoughtful farmer!

Lemon Syrup.—The United States Telegraph gives the following receipt for lemon syrup, which, says the writer, will remain good for many years, even in hot climates, and will serve a family as long as six bottles prepared by the confectioners. To every pint of the strained juice, add 1¾ lbs. of white or Havannah sugar; put the mixture in a bell-metal vessel, and let it simmer over the fire until the juice under the froth becomes clear; put the clear juice into bottles well corked.

Curds and Whey.—A London paper gives what the writer calls, a ready and elegant mode of procuring curds, and also a pleasant acidulous whey, by adding to a glass full of milk, a little of citric acid. Experience will show the quantity necessary to effect the purpose.

Stone Pine, *Pinus Cembra.*—This is one of the most useful trees in Switzerland: it is indeed of very slow growth; one of them, cut down when nineteen inches in diameter, displayed three-hundred and fifty-three concentric circles. Its usual growth is a span in height in six years. The timber of this tree has a most agreeable perfume, and is much used for domestic utensils, and for wainscoting rooms. A traveller who visited the chateau of Tarasp, was struck in almost every apartment, with the perfume of this wood; and he remarks it is a surprising and inexplicable circumstance, that the wood should have exhaled this perfume for some centuries, in undiminished strength, and without the wood itself having suffered any decrease of weight. But this wood possesses another recommendation: rooms wainscoted with it are not infested with bugs or moths. Its seeds are esteemed a delicacy; they are eaten in great quantities at the winter parties; and on these occasions it is said the female sex display in extracting them a high degree of skill, mixed with much innocent gaiety and vivacity.—*New-England Farmer.*

Remarks.—Loudon calls the Pinus Pinea, the *Stone Pine*, which is a native of the South of Europe. The Cembra is a native of Siberia. The P. Cembra var helvetica is indigenous to Switzerland.

Early Fruit.—The Genesee Farmer gives the following information concerning fruit:

"From the first to the eighth of August, our market was well supplied with apples, ripe and fair, and on the eleventh, pears were brought in from the country, but owing to the prevalence of the Cholera, very few were disposed to purchase them. Apricots have been more abundant this season, than in any former year; and on the 14th, a bushel of fine ripe peaches, were exhibited in our village, as a foretaste of the crop, which promises to be very abundant."

"Most of the tender kinds of foreign grapes which were not buried last winter, were badly injured, which was never known to happen in the Genesee Country before, since it has been settled. There probably will not be half a crop. But the Isabelles, Catawbas, Alexanders, and other American varieties, are very prolific.—There is one vine of four years old in this village, which is said to have more than three thousand clusters on it, and looking very fine."

We are much pleased to receive communications from those who are familiar with sheep husbandry. We hope the writer of the following will often favour us with the results of his observations and experience.

Cotswold Sheep.—Mr. Samuel Eccles is the only importer of the breed of these sheep into this country. He brought out with him, in September, 1831, by the Packet Ship William Byrns, 7 rams and 4 ewes. One ram he sold to Mr. Parmley, of New-York, and 4 to Mr. Brentnal, of Goshen, Orange County, three of which Mr. B. has resold, the

two remaining rams and the 4 ewes, Mr. Eccles is breeding from, and has now two very fine ram lambs and one ewe lamb, the produce of last season. Mr. Eccles has also just imported 6 rams and 6 ewes, which have been selected from the best flocks in England; and in consequence of having located himself at St. Thomas's, London District, Upper Canada, he has offered them for sale. They are now at Newburgh, and may be seen, by applying to Mr. J. W. Smith, at the Mansion House; but if not sold by the 10th of September, they will be sent to Mr. Eccles in Canada. Mr. Eccles intends keeping the breed pure as imported, and will have two or three rams for sale every season. He has also at Newburgh a Durham cow and calf for sale. The Cotswold sheep are bred on a range of hills, called the Cotswold Hills, which run through the County of Gloucester, and part of Oxford, in England. The land is poor, and the climate cold, consequently the sheep live hard, particularly in winter; they are a very ancient breed, and never have been crossed with any other sort; and till within the last ten years, much neglected, since that a good deal of attention has been paid to them, and they are greatly improved. In consequence of the Bakewell or Dishley breed (so called here) having recently much degenerated, they are now, using Cotswold Rams, to increase their size and quantity of wool, also to improve the constitution. The Cotswold sheep are the largest, have the most and longest stapled wool, and the best constitutions of any sheep in England; they will, when fat, weigh from 60 to 70 pounds per quarter, and will cut from 10 to 14 pounds of wool each; the latter is particularly well adapted for the manufacture of blankets, carpets, and domestic goods. The only breed in England similar to them, was what is called the old Lincoln breed, but I believe they are now extinct. The town of Whitney, in England, so celebrated for the manufacture of blankets, is situated in the district where the Cotswold sheep are bred, and the factories are principally supplied with wool from these flocks. The Whitney blankets are even now considered superior to any other. I have no doubt the Cotswold sheep would improve the native breed of this breed, more than any sheep that could be imported, by selecting from the flocks the best ewes and putting a Cotswold ram to them; but I would confine them to the native and Dishley breeds. I would not recommend their being put to the Merino or fine wool, because you would be spoiling the wool of both; it would not be fit for the manufacture of fine cloths, and the sample would not be be long enough for other purposes.

Yours respectfully,

J. W. SMITH.

Mansion House, Newburgh, August 22, 1832.

To Correspondents.

We acknowledge the receipt of numerous communications; and also the Transactions of the Essex Agricultural Society, from Mr. Colman; and a Geological Text Book of North American Geology, from Professor Eaton, who says it is to be well read, particularly the part on the Application of Geology to the Science of Agriculture. We shall take his advice.

MISCELLANEOUS.

Thunder and Lightning.

To conceive justly of the nature of thunder and lightning, we have only to view the effects of a common electrical machine, and its apparatus, in an apartment. These experiments mimic the great, wonderful, and terrific phenomena of nature. The stream, or spark, from the machine to the hand, represents the shaft of lightning from the clouds to the earth; and the snapping noise of the diminutive spark corresponds with the explosion produced by the shaft of lightning which we call thunder. In what manner the clouds become electrified, and, in short, what is the nature of electricity itself, our present range of experiments so little qualify us to determine, that a century will perhaps elapse before philosophical precision can be attained. At present we only know for certain that the electrical power displays itself merely on the surface of bodies; and whether it is a fluid *per se*, a vacuum restoring itself, or whatever its nature may be, the state of experimental knowledge does not enable us to determine.

The obvious analogy between lightning and electricity had long been suspected, and was placed beyond a doubt by Doctor Franklin, who was the first to conceive the practicability of drawing down lightning from the clouds. Having found, by previous experiments, that the electric fluid is attracted by points, he apprehended that lightning might likewise possess the same quality; although the effects of the latter would in that case surpass those of the former in an astonishing degree. Flashes of lightning, he likewise observed, are generally seen crooked and waving in the air; and the electric spark drawn from an irregular body at some distance, when it is drawn by an irregular body, or through a space in which the best conductors are disposed in an irregular manner, always exhibits the same appearance.

Lightning strikes the highest and most pointed objects in its way, in preference to others, as high hills, trees, spires, masts, &c.; and all pointed conductors receive and throw off the electric fluid more readily than those which are terminated by flat surfaces. Lightning is observed to take the best and readiest conductor; and this is also the case with electricity, in the discharge of the Leyden phial; whence Doctor Franklin inferred that, in a thunder storm, it would be safer for a person to have his clothes wet than dry. Lightning burns, dissolves metals, rends some particular bodies, such as the roots and branches of trees, strikes persons with blindness, destroys animal life, deprives magnets of their virtue, and reverses their poles; and these are the well known properties of electricity.

Lightning not only gives polarity to the magnetic needle, but to all bodies which have any portion of iron in them, as brick, &c.; and, by observing which way the poles of these bodies lie, the direction in which the stroke has passed may be known with the utmost certainty.

In order to demonstrate, by actual experiment, the identity of the electric fluid with the matter of lightning, Doctor Franklin contrived to bring lightning from the heavens by means of an electrical kite, which he raised on the approach of a thunder storm; and, with the electricity thus obtained, charged phials,

kindled spirits, and performed all other electrical experiments, as they are usually exhibited by an excited globe or tube. This happened in 1752, a month after the French electricians, pursuing the same method which he had proposed, had verified the same theory; but without any knowledge on his part of what they had done. On the following year, he further discovered that the air is sometimes electrified positively, and sometimes negatively; and that, in the course of one thunder storm, the clouds change from positive to negative electricity several times. He was not long in perceiving that this important discovery was capable of being applied to practical use; and proposed a method, which he soon accomplished, of securing buildings from being damaged by lightning, by means of conductors, the use of which is now universally known.

From a number of judicious experiments made by him, Signor Beccaria concludes that the clouds serve as conductors to convey the electric fluid from those parts of the earth which are overloaded with it, to those where it is exhausted. The same cause by which a cloud is first raised, from vapours dispersed in the atmosphere, draws to it those which are already formed, and still continues to form new ones, till the whole collected mass extends so far as to reach a part of the earth where there is a deficiency of the electric fluid, and where the electric matter will discharge itself on the earth. A channel of communication being thus produced, a fresh supply of electric matter is raised from the overloaded part, which continues to be conveyed by the medium of the clouds, till the equilibrium of the fluid is restored between the two places of the earth. He further observes, that as the wind constantly blows from the place where the thunder cloud proceeds, the sudden accumulation of such a prodigious quantity of vapours must displace the air, and repel it on all sides. Indeed, many observations of the descent of lightning confirm his theory of the mode of its ascent; for it often throws before it the parts of conducting bodies, and distributes them along the resisting medium through which it must force its passage; and on this principle the longest flashes of lightning seem to be produced, by its forcing in its way part of the vapours in the air. One of the chief reasons why the report of these flashes is so much protracted, is the vast length of the vacuum made by the passage of the electric matter; for although the air collapses the moment after it has passed, and the vibration, on which the sound depends, commences at the same moment, still, when the flash is directed towards the person who hears the report, the vibrations excited at the nearer end of the track will reach his ears much sooner than those from the remote end, and the sound will, without any echo or repercussion, continue till all the vibrations have successively reached him. The rattling noise of the thunder, which makes it seem as if it passed through arches, or were variously broken, is probably owing to the sound being excited among clouds hanging over one another, and the agitated air passing irregularly between them.

Among other precautions pointed out by Doctor Franklin, he recommends those who happen to be in the fields, at the time of a thunder storm, to place themselves within a few yards of a tree, but not quite near it. Signor Beccaria however, cautions persons not to depend on higher, or, in all cases, a better conductor than their own body; since, according to his repeated observations, the lightning by no means descends in one undivided track, but bodies of various kinds conduct their share of it at the same time, in proportion to their quantity and conducting power. The late Earl Stanhope, in his principles of electricity, observes that damage may be done by lightning, not only by the main stroke and lateral explosion, but likewise by what he calls *the returning stroke;* that is, by the sudden violent return of that part of the natural share of electricity of any conducting body, or any combination of conducting bodies, which had been gradually expelled from such body or bodies respectively, by the superinduced elastic electrical pressure of a thunder-cloud's electrical atmospheres.

Among the awful phenomena of nature, none have excited more terror than thunder and lightning. It is recorded of several of the profligate Roman emperors who had procured themselves to be deified, that when they heard the thunder, they tremblingly concealed themselves, acknowledging a divine power greater than their own—*a Jupiter thundering in the heavens!*—Clarke.

Vegetable Silk.—The bark of the Papyfera, a species of the mulberry tree, not only furnishes fibres for ropes, but can even be formed into cloth. M. la Roverie affirms, that he procured a beautiful vegetable silk from the young branches of this tree; cutting the bark while the tree was in sap, and then beating it with mallets and steeping it in water, he obtained a thread from the fibres, almost equal to silk in quality, and this was woven into a cloth whose texture appeared as if formed of that material. The women of Louisiana obtain a similar production from the offshoots of the mulberry; these are gathered when they are about four or five feet high. The bark is stripped and dried in the sun: it is then beaten, to get rid of the external part, which falls off, leaving the inner bark entire. This is again beaten, to make it still finer, after which it is bleached in dew. It is then spun, and various fabrics are made from it, such as nets and fringes; and sometimes it is woven into cloth. The finest sort of cloth among the inhabitants of Otaheite and other of the South Sea Islands, is made of this tree.—*Naturalist.*

TO THE EDITOR OF THE NEW-YORK FARMER.

Destruction of Rats.

Sir,—I have observed in several papers of late, a recommendation of *unslacked* plaster of paris, as a sovereign remedy against rats. To effect their destruction we are directed to mix the plaster with meal, the rats are to eat this mixture, which is to produce incurable indigestion and death. Now I believe, that plaster of paris in its unprepared state, is as little inclined to slack, or set, as so much sand; it is true, that when deprived of its water of chrystalization by boiling, and wet with water to the consistency of cream, it may be cast into almost any shape, and will resume, in process of time, its original hardness of stone; but unboiled plaster, I believe, has no disposition to slack or set. I have somewhere read of an old lady, who had discovered a sovereign remedy against fleas; you have only to catch them, she said, pinch off their heads, and they will never trouble you again. So I apprehend, that if we could only catch

the rats, and stuff them with boiled plaster, the desired effect may be produced, and not otherwise.

My experience and observations have convinced me, that arsenic, though it may sicken, will not destroy rats. Take one oz. of Nux Vomica, bruise it in an iron mortar, and put it in some old vessel. Take a quart of opened oysters, bring them to a boiling heat, pour this hot liquor with the oysters, on the Nux Vomica, let it stand from six to twelve hours, stirring it frequently, then take out the oysters and distribute them on chips or shells, two or three oysters to each chip or shell, place these in the way of the rats, they will devour them with avidity, and as far as they eat them they will be effectually destroyed.

Yours, R. M. W.

Middlesex, July 17, 1832.

Sugar.

Sir,—In the Greene Sentinel, I notice an article on the manufacture of sugar from the potatoe, which, I think, contains some ideas not altogether correct. Sugar exists in most grains and roots, and it is the same in all, only modified a little in flavour, by the article from which it is extracted. Where sugar and tartar exist, a fermentation may be supported and alcohol produced. The idea that sugar is produced by fermentation, or in any part of the process, as intimated by Mr. Russel, is certainly erroneous. It exists as one of the component parts of the potatoe. That a bushel of potatoes contains eight pounds of sugar I very much doubt; that the potatoe will support fermentation and yield alcohol, I know by experience, having tested them myself; but the fermentation is short, and the produce such, as would indicate a less quantity of sugar to a bushel. The sugar cane yields rum, the grape yields brandy, and other substances yield spirits, peculiar to themselves; but when deprived of their flavour, the alcohol is the same in all cases.

Yours, &c. R. M. W.

Middlesex, July 9th, 1832.

Government of the Tongue.

Mr. Fibbits was from home at the time of our calling, but we were received with hearty and homely welcome by his wife; a notable, motherly woman, and a complete pattern for wives; since, according to Master Sinod's account, she never contradicts honest Jack, and yet manages to have her own way, and to control him in every thing.—*Bracebridge Hall.*

Mr Editor,—I would recommend the example of Mrs. Tibbets to our good housewives. Many a family broil might be avoided by an imitation of her prudent conduct, which from a want of it, often produces the most fearful consequences. I recollect of an old uncle, advising his niece to hold in her mouth a little cold water, whenever she felt herself moved to contradict her lord and master. R. M. W.

July 18th, 1832.

Measles.

Mr. Editor,—Some time ago, I observed in the New-York Observer, an extract from the Journal of Health. I agree with the editors of the Journal, that the patient should be kept cool, and that many of the expedients resorted to, are injurious; but when they direct to apply to the skin of the patient, a sponge wet in cold water, or to dash cold water upon the surface, I very much question the propriety of this recommendation. Take one teaspoonful of Ipecacuanha, add to it a gill of hot, but not boiling water. As soon as the patient begins to cough, begin with this tea; a teaspoonful may be given four times a day, until the eruption is entirely out. When the eruption begins to absorb into the system, is the most critical time in this disorder, as it is very apt to fall upon the lungs, the brain, or some other vital organ. The tea will effectually guard the lungs, and a cloth wet in cold water, and kept constantly on the forehead, will protect the brain and eyes. This disorder is usually followed by a relax, or scouring. This should not be impeded, but rather encouraged by gentle cathartics, as the patient is never safe until this takes place. I object to opium, because it impedes this salutary evacuation; and to camphor, because it is insoluble in water. A teaspoonful of spirits of Hartshorn, added to the Ipecac. tea, will have all the beneficial effects of camphor. If an inflammation of the lungs should occur, then medical advice should be immediately called, but in ordinary cases I have always found the above practice safe and effectual.

Yours, &c. R. M. W.

Middlesex, July 5th, 1832.

We have received from Mr. Saul, the Lancaster (Eng.) Herald, of July 28, from which we make the following extracts.—*Ed.*

Mushroom in a Tobacco-Box!—On Thursday, the 5th inst., a labouring man at Caistor, of the name of Suttaby, exhibited to his wondering friends, a healthy and regularly-formed mushroom, growing from one end of his tobacco box, the stalk of which was the thickness of a pipe, 2 1-2 inches in length, and the diameter of its convexity was about that of a halfpenny. The above named person has habituated himself for the last ten years to the luxury of chewing tobacco; and, like a true economist, in the course of each following day, alternately used and returned his quid to his box, till at length it was cast away. Upon due examination made by the writer of this article, the following explanatory account may be relied on. The box is antique, and made of white metal, the lid plain, but the bottom part has a lion's head moulded thereon, thus occasioning in the centre a cavity of an inch and a quarter. Its length is 2 5-8 inches, and it opens with a hinge, at the end of which several bits of white and brown paper were observed adhering to the box, and rendered compact by subsequent saturated deposits of the favourite exotic. From this hetoregeneous composition, the spawn of the mushrooms, it is supposed, was produced, and the vegetation was assisted by the box being constantly worn in the waistcoat pocket. About a month ago, another mushroom in embryo was observed by Suttaby growing from the same place in the box, but the intruder was quickly "cut down like a flower," from certain qualms of feeling, he considering the thing ominous, and forboding death to himself or some part of his family!

The Harvest and the Corn Market.—All the accounts from England, Scotland, Ireland, France,

Germany, and the rest of the Continent, concur in stating that there is every prospect of a splendid harvest. The corn market is therefore very dull, and the prices of grain are declining. The cause of the decline renders it a matter for rejoicing rather than for regret. An immense quantity of hay has been secured in Yorkshire and Lancashire, during the present week, with very little labour.

The Microscope.

The microscope, derived from the Greek *mirkos*, small, and *skopeo*, to see, is an instrument for viewing minute objects, and it apparently magnifies objects, because they enable us to see them nearer with the naked eye, without affecting the distinctness of vision. By making a pinhole through a piece of paper, then bringing the eye close to the hole, and the paper within two or three inches of any small object, the object will apparently be much magnified, though without the paper, it would at that distance have been imperceptible.

There are three kinds of microscopes; the single, the compound, and the solar.

Single microscopes, of the greatest power, are very small globules of glass, which are made by melting the ends of fine threads of glass in the flame of a candle; or by taking a little fine powdered glass on the point of a very small needle, and melting it into a globule. With such microscopes as these, Leuwenhoek made all his wonderful discoveries. The most wonderful single microscopes are those lately made of diamond. The *Compound microscope* consists of at least two lenses, by one of which an image is formed within the tube of the microscope; and this image is viewed through the eye glass, instead of the object itself, as in the single microscope. The microscope being intended only for minute objects, the object lens is consequently of a short focus, and the eyeglass, in this case, is not of so high a magnifying power as in the telescope. The *Solar microscope* is a kind of camera obscura, which, in a darkened chamber, throws the image on a wall or screen.. It consists of two lenses fixed opposite a hole in a board or window-shutter. There is also a plain reflector placed without, moved by a wheel and pinion, which may be so regulated as to throw the sun's rays opon the outer lens. The *lucernal microscope*, invented by M. Adams, is also a kind of camera obscura; only the light, in this latter case, proceeds from a lamp instead of from the sun, which renders it convenient to be used at all times.

Nature shows her wonders in the minutest as well as in the largest objects. Our senses are not sufficiently acute to perceive the organization of very small bodies, which often escape our observation unless we have recourse to foreign assistance. The microscope has opened to us a new world of insects and vegetables; it has taught us that objects invisible to the naked eye, exist, having figure, extension, and different parts. Every grain of sand when examined by the eye appears round, but with the help of a glass, we observe each grain differs from the other, both in size and figure; some of them are perfectly round, others square, some conical, and the major part of an irregular form. What is still more astonishing, by microscopes which magnify objects millions of times their natural size, we can discover in the grains of sand a new animal world; for within their cavities, dwell various insects. One of the most wonderful displays in nature is a drop of putrid water, exhibited in a powerful valve microscope, by means of which it covers a space of nine feet in diameter. It is full of living creatures of the strangest shapes, and as their motions are magnified, the rapidity with which they appear to move is perfectly astonishing. In the vegetable kingdom we are presented with a thick forest of trees and plants, bearing leaves, branches, flowers, and fruits; the rudiments of all which beautiful objects, were once hidden beneath the mould. Little as we should expect to find these in such a bed, as little should we suppose the dust upon the wings of a butterfly to be minute feathers, or the bloom of a peach to be a collection of insects, had not the microscope furnished us with this intelligence.

'How sweet to muse upon His skill display'd,
Infinite skill! in all that he has made;
To trace in Nature's most minute design
The signature and stamp of Power Divine;
Contrivance exquisite express'd with ease,
Where unassisted sight no beauty sees;
The shapely limb, and lubricated joint
Within the small dimensions of a point;
Muscle and nerve miraculously spun,
His mighty work who speaks, and it is done.
Th' invisible in things scarce seen reveal'd;
To whom an atom is an ample field.'

The microscope endows us, as it were, with a new sense: unfolds the amazing operations of Nature, and displays to us wonders unimagined by former ages. Who, a thousand years ago, would have thought it possible to distinguish myriads of living creatures in a single drop of water? That the purple tide of life, and even the globules of the blood, should be seen distinctly, rolling through veins and arteries, smaller than the finest hair? That not only the exterior form, but even the internal structure, and the motion of the fluids in a gnat, should be rendered visible? Or, that numberless species of creatures should be made objects of vision, though so minute, that a million of them are less than a grain of sand? These are noble discoveries, on which a new philosophy has been raised, that enlarges the capacity of the human understanding, and affords more sublime and just ideas than mankind had before, of the infinite power, wisdom, and goodness of the Great Creator.

'The artificial convex will reveal
The forms diminutive that each conceal;
Some so minute, that to the one extreme,
The mite a large leviathan would seem;
That yet of organs, function's sense partake,
Equal with animals of larger make.

In curious limbs and clothing they surpass
By far the comeliest of the bulky mass.
A world of beauties! that through all their frame
Creation's grandest miracles proclaim.'

It was an observation of the excellent Mr. Boyle, that his wonder dwelt not so much on Nature's clocks as on her watches. And, indeed, if we compare the structure of an elephant with that of a mite, we shall perceive the justness of his remark. With whatever degree of surprise, or even of terror, we may at first

consider the huge bulk and prodigious strength of the elephant, we shall find our astonishment still greater, if we attentively examine the minute parts of a mite. The mite has more limbs than the elephant; each of them furnished with veins and arteries, nerves, muscles, tendons, and bones; it has eyes, a mouth, and a proboscis too, as well as the elephant, to take in its nourishment, a heart to propel the circulation of the blood, a brain to supply nerves in every part, and other organs as perfect as in the largest animal. Now, if the extreme minuteness of these parts is not merely surprising, but far above our utmost conception, what shall we say to those various species of animalcules, to which the mite itself, in size, is, as it were, an elephant? Inconceivable as it may appear, it is yet a fact, that a mite upon a cheese is as large and considerable, in proportion, as a man upon the earth. The little insects that feed upon the leaves of peach trees are no inappropriate representation of oxen grazing in large pastures; and the animalcules in a drop of water swim about with as much freedom as whales do in an ocean. They have all equal room in proportion to their bulk. In each, too, the organization is as perfect as in others; and the quantity of life and activity seems not in the least diminished, though the parts in which they are seated be so small as to elude our observation.

In pursuing this subject, we shall confine ourselves to the description of Gould's pocket microscope, which we deem the best for scientific purposes, and its application to objects of natural history.

The extreme portability and great magnifying power of this microscope will recommend it strongly to the naturalist, mineralogist, and botanist, as it has sufficient powers to discover the most minute animalcule and seed vessels; it combines the uses of the Single, Compound, Opaque, and Aquatic Microscopes; and has been found, upon comparison, by several scientific gentlemen, superior in power, and more distinct than many of the largest and most expensive instruments of the kind;—it shuts up in a case, three inches by three and a half, and may be carried in the pocket without the slighest inconvenience.—*Naturalist.*

Remarkable Preservation.

Eleanora Lumley, the infant daughter of Mr. J. Lumley, aged four years, residing at No. 33, Wellclose Square, London, on the evening of Sunday, the 24th ultimo, was left in bed asleep by her mother, on the first floor, while she attended public worship, at a chapel in the neighborhood. The father, left in charge, retired to an apartment below, attentively listening to the awaking of his child. At the expiration of about half an hour, he heard faint cries, apparently proceeding from above. Concluding his child was awake, yet, from his defective hearing, half doubting the fact, he cautiously ascended the stairs, to prevent (if deceived) awaking her. Upon his entering the room usually allotted for her repose, and eagerly looking into the bed, no child was there. The thought of the moment suggested to him, that she was in the adjoining room. There too he searched, with the same disappointment.

The agony of mind experienced by him in these trying moments, is to be felt by a parent only in like circumstances. Still he heard, or thought he heard, the cries of his child. Breathless, he descended the stairs into the passage below, listening at every step, and sinking with dreadful forebodings, through the agitation of his mind. Having searched the parlour and kitchen through, almost without hope, he opened the yard door, when to his great surprise, he beheld his lost child sitting in an upright posture on the flag stones, endeavouring to raise herself up.

The first question was, how she came there? Her father not suspecting the miraculous escape his daughter had experienced, she sobbed out, "Me was frightened, father, and jumped out of the window." In truth, though scarcely to be credited, she had sprung from the back window of the first floor, into the yard below, a height of nearly eighteen feet; the ground having been excavated to give light to kitchens below.

The first consideration was to search for broken bones, bruises, &c. But, after a minute inspection, both by himself and a surgeon, it was ascertained that no hurt was occasioned by the fall, at least there was no outward appearance of any, save a slight scratch down the middle of the back, which it was supposed had been received by her springing against a projecting wall, and which perhaps in some degree broke the violence of the fall. The child underwent the prescriptions recommended by the medical attendant, of repose, &c. and after three days was perfectly recovered.

This imminent danger from which the child thus escaped, arose out of the too prevalent custom of alarming children with the idle tales of *old men, boogaboes*, &c. Such folly cannot be too severely reprehended. That mothers will accustom themselves, or suffer others entrusted with the care of their offspring, to frighten them into a temporary and agitated repose, is deeply to be lamented. The little innocent indeed, through fear, appears to sleep; its eyes are shut; and perhaps by dint of persevering alarms, may at last fall into a slumber, but is it the sleep of repose and rest? does it refresh and invigorate its tender frame? Alas, no! Mark its convulsive movements: dreams agitate its little mind; it starts in agony; it sobs, and at last awakes in affright, though not invariably like the child in question, who, it appears, had, from the same cause, and through the strongest fear, contrived to throw itself from the window, yet always leaving the same effects, a constant dread and intimidation through life, not unfrequently such as embitter a great portion of our valuable time, leaving us a prey to diseases, beyond the art of medicine, and the skill of experience, to cure.—*English Magazine.*

First-rate Man of War.—Of all the arts and professions which are calculated to attract a particular notice, no one appears more astonishing and marvellous than that of navigation, in the state in which it at present exists. This cannot be made more evident, than by taking a retrospective view of the small craft to which navigation owes its origin, and comparing them to A MAJESTIC FIRST-RATE MAN OF WAR, containing one thousand men, with their provisions, drink, furniture, apparel, and other necessaries, for many months besides one hundred pieces of heavy ordnance, and bearing all this heavy apparatus safely to the most distant shores. A man in health consumes, in the space of twenty-four hours, about eight pounds

of victuals and drink: consequently eight thousand pounds of provision are daily requisite in such a ship. Let her be supposed, then, to be fitted out for three months, and it will be found, that she must be laden with 720,000 pounds of provisions. A large forty-two pounder, if made of brass, weighs about 6,100; and about 5,500 if of iron; and, in general, there are twenty-eight or thirty of these on the lower gun-deck, on board a ship of 100 guns; the weight of these, exclusive of that of their carriages, amounts to 183,000 pounds. On the middle gun-deck are thirty twenty-four-pounders, each weighing about 5,100 pounds, and, therefore, collectively, 153,000 pounds; and the weight of the twenty-six or twenty-eight twelve pounders on the upper gun-deck, amounts to about 75,400 pounds; that of the fourteen six-pounders on the quarter deck, forecastle, and poop, to about 26,000 pounds, and, besides these, there are, in the round tops, even three pounders and swivels. If to this be added, that the complete charge of a forty-two-pounder weighs about sixty-four pounds; and that at least 100 charges are required for each gun, this will be found to amount nearly to the same weight as the guns themselves. In addition also to this, the reflection must be made, that every ship must have, to provide against exigencies, at least another set of sails, cables, cordage, and tackling, which, taken together, amount to a considerable weight: the stores, likewise, consisting of planks, pitch, and tow; the chests belonging to the officers and seamen; the surgeon's stores; and various other articles requisite on a long voyage; with the small arms, bayonets, must be finally added the weight of the crew, so that one of these first-rates carries, at the least, 2,162 tons burden, or 4,324,000 pounds; and at the same time, is steered and governed with as much ease as the smallest boat.—*Clarke's Wonders.*

The Diving-Bell.—This invention, by the means of which an operator descends to any depth of water, and remains there several hours, is founded on the elasticity of the air. Weights are placed at the bottom to prevent it from turning; and a forcing-pipe sends in fresh air, to supply the waste of vital air from the respiration of the operator.

The sinking and raising of the diving-bell, invented by Dr. Halley, depending entirely on the people at the surface of the water, and being besides of considerable weight, so as to occasion much labour, with a risk of the breaking of the rope by which it was to be raised, to the sure destruction of those within, a diving-bell has been invented by Mr. Spalding, of Edinburgh, to remedy these defects, and prevent the edges of the machine from being entangled by any ragged prominences of rock. His machine is of wood, suspended by ropes, and having leaden weights appended to it, by which the mouth of the bell is kept always parallel to the surface of the water, whether the machine, taken altogether, is lighter or heavier than an equal bulk of water. By these weights alone, however, the bell would not sink; another is therefore added, which can be lowered or raised at pleasure, by means of a rope passing over a pulley, and fastened to one of the sides of the bell. As the bell descends, this weight, called by Mr. Spalding the balance-weight, hangs down a considerable way below the mouth of the bell. In case the edge of the bell is caught by any obstacle, the balance-weight is immediately lowered down, so that it may rest upon the bottom. By this means the bell is lightened, so that all danger of oversetting is removed; for being lighter, without the balance-weight, than an equal bulk of water, it is evident that the bell will rise as far as the length of the rope affixed to the balance-weight will allow it. This weight, therefore, serves as a kind of anchor to keep the bell at any particular depth which the divrrs may think necessary; or, by pulling it quite up, the descent may be continued to the very bottom.

By another very ingenious contrivance, Mr. Spalding has rendered it possible for the divers to raise the bell, with all the weight appending to it, even to the surface of the water, or to stop it at any particular depth, as they think proper; and thus they would still be safe, even though the rope designed for pulling up the bell should be broken. For this purpose the bell is divided into two cavities, both made as tight as possible. Just above the second bottom are small slits in the sides of the bell, through which the water, entering as the bell descends, displaces the air originally contained in its cavity, which flies out at the upper orifice of a cock, expressly fitted for that purpose. When this is done, the divers turn the handle which stops the cock; so that if any more air were to get into the cavity, it could no longer be discharged through the orifice as before. If, therefore, the divers wish to raise themselves, they turn the cock, by which a communication is made between the upper and under cavities of the bell. The consequence is, that a quantity of air immediately enters the upper cavity, forces out a quantity of the water contained in it, and thus renders the bell lighter by the whole weight of the water which is displaced. Thus, if a certain quantity of air is admitted into the upper cavity, the bell will descend very slowly; if a greater quantity, it will neither ascend nor descend, but remain stationary; and, if a larger quantity of air be still admitted, it will rise to the top. It should be observed, however, that the air which is thus let out into the upper cavity, must immediately be replaced from the air barrel; and the air is to be let out very slowly, or the bell will rise to the top with so great a velocity, that the divers will be in danger of being shaken out of their seats. But by following these directions, every possible accident may be prevented, and persons may descend to very great depths without the smallest apprehension of danger. The bell also becomes so easily manageable in the water, that it may be conducted from one place to another, by a small boat, with the greatest ease, and with perfect safety to those within.

Swiftness of Men.—Men who are exercised in running, out-strip horses; or at least hold their speed for a longer continuance. In a journey too, a man will walk down a horse; and after they have both continued to proceed for several days, the horse will be quite tired, and the man as fresh as in the beginning. The king's messengers of Ispahan, who are runners by profession, go 108 miles in 14 hours. Hottentots outstrip lions in the chase, and savages who hunt the elk, tire down and take it; and are said to have performed a journey of *three thousand six hundred miles in less than six weeks.*

THE RAINBOW.—The poets feigned the rainbow to be the residence of certain aerial creatures, whose delight it is to sport and wanton in the clouds. Milton, in his exquisite pastoral drama of Comus, thus alludes to this platonic idea:—

I took it for a fairy vision
Of some gay creature in the element,
That in the colours of the rainbow live,
And play i' th' plighted clouds.

Shakspeare is the only writer, who has alluded to the colours, which are reflected on the eyes when suffused with tears. The rainbow, which, not improbably, first suggested the idea of arches, though beautiful in all countries, is more particularly so in mountainous ones; for, independent of their frequency, it is impossible to conceive anything more grand, than the appearance of this fine arch, when its points rest upon the opposite sides of a narrow valley, or on the peaked summits of precipitate mountains. The Scandinavians believed it to connect earth with heaven; and gave it, for a guardian, a Being, called Heimdaller.

It is impossible to see a rainbow without feeling admiration towards the Power that forms it! One of the glories which are said to surround the throne of Heaven, is a rainbow like an emerald. In the Apocalypse it is described, as encircling the head of an angel; in Ezekiel, the four cherubim are compared to a cloud arched with it."

THE evening was glorious, and the light through the trees
Play'd the sunshine and rain-drops, the birds and the breeze;
The landscape, outstretching in loveliness, lay
On the lap of the year, in the beauty of May.

For the Queen of the Spring, as she pass'd down the vale,
Left her robe on the trees, and her breath on the gale;
And the smile of her promise gave joy to the hours,
And flush in her footsteps sprang herbage and flowers.

The skies, like a banner in sunset unroll'd,
O'er the west threw their splendour of azure and gold;
But one cloud at distance rose dense, and increased,
Till its margin of black touch'd the zenith, and east.

We gazed on the scenes, while around us they glow'd,
When a vision of beauty appear'd on the cloud;—
'Twas not like the Sun, as at mid-day we view,
Nor the moon that rolls nightly through star-light and blue.

Like a *Spirit*, it came in the van of the storm!
And the eye, and the heart, hail'd its beautiful form;
For it look'd not severe, like an Angel of Wrath,
But its garment of brightness illumed its dark path.

In the hues of its grandeur sublimely it stood,
O'er the river, the village, the field, and the wood;
And river, field, village, and woodlands grew bright,
As conscious they gave and afforded delight.

'Twas the bow of Omnipotence: bent in His hand,
Whose grasp at Creation the Universe spann'd:
'Twas the presence of GOD, in a symbol sublime;
His Vow from the Flood to the exit of Time!

Not dreadful, as when in the whirlwind he pleads,
When storms are his chariot, and lightnings his steeds;
The black clouds his banner of vengeance unfurl'd,
And thunder his voice to a guilt-stricken world;—

In the breath of his presence when thousands expire,
And seas boil with fury, and rocks burn with fire;
And the sword, and the plague-spot with death strew the plain,
And vultures and wolves are the graves of the slain:—

Not such was that RAINBOW, that beautiful one!
Whose arch was refraction, its key-stone—the Sun;
A Pavilion it seem'd which the Deity graced,
And Justice and Mercy met there, and embraced.

Awhile, and it sweetly bent over the gloom,
Like Love o'er a death-couch, or Hope o'er the tomb;
Then left the dark scene, whence it slowly retired,
As Love had just vanish'd, or Hope had expired.

I gaz'd not alone on the source of my song;
To all who beheld it these verses belong,
Its presence to all was the path of the Lord!
Each full heart expanded,—grew warm,—and adored!

Like a visit—the converse of friends—or a day,
That Bow from *my sight* passed for ever away;
Like that visit, that converse, that day—to my heart,
That Bow from *remembrance* can never depart.

'Tis a picture in memory distinctly defined,
With the strong and unperishing colours of mind;
A part of my being beyond my controul,
Beheld on that cloud, and transcribed on my soul.

BOY AND HIGHWAYMAN.—A boy having sold a cow, at the fair at Hereford, he was way-laid by a highwayman, who at a convenient place demanded the money; on this the boy took to his heels and ran away; but being overtaken by the highwayman, who dismounted, he pulled the money out of his pocket, and strewed it about, and while the highwayman was picking it up, the boy jumped upon the horse and rode home. Upon searching the saddle bags, there were found twelve pounds in cash, and two loaded pistols. The horse was also valuable.

TEACHING A COW.—A gentleman lately riding near his own house in Ireland, saw a cow's head and fore feet appear at the top of a ditch, through a gap in the edge on the road side; he heard a voice alternately threatening and encouraging the cow; he was induced to ride up close to the scene of action, when he saw a boy's head appear behind the cow. "My good boy," said he, "that's a fine cow." "Och, that she is," replied the boy, "and I am taching her how to get her own living, plase your honour." The gentleman did not understand him, and had he asked for an explanation, would probably have died in ignorance; but the boy, proud of his cow, encouraged an exhibition of her talents; she was made to jump across the ditch several times, and this adroitness was termed "getting her own living." Thus, as soon as a cow's education is finished, she may provide for herself;—turned to graze in the poorest pastures or highways, she will be able and willing to live upon the fat of the land.

NEW PUBLICATIONS.

Journal *of an Expedition to Explore the Course and Termination of the Niger, with a Narrative of a Voyage down that River, to its Termination.* By Richard & John Lander. Illustrated with Engravings and Maps. In two vols. J. & J. Harper, New-York.

This work forms the 35th number of the Messrs. Harpers' Family Library—a collection of books that should be in every library, embracing some of the best and the most interesting specimens of modern literature—and affording a great deal of reading matter at a very moderate price.

Since America was made known to the eastern world, no geographical discovery has equalled that of the termination of the Niger in Africa. Our readers will recollect that Mungo Park lost his life in an attempt to descend this river from the interior of the country. Since his day, the British government has constantly kept her eye on this object, and several unsuccessful attempts have been made. Mr. Richard Lander was with Capt. Clapperton, whose fate, after indulging sanguine expectations of accomplishing the great object in view, was like that of Mr. Park's. Mr. L. and his brother departed from England the 9th of January, 1830. Landing at Cape Coast, in the Gulph of Guinea, they travelled most of the time on horses, into the interior of the country, for several months, and finally, after great suffering and many hair-breadth escapes, descending the river in canoes, they reached its termination the 15th of November following. It is supposed to empty by several mouths, the principal of which, and the one at which the Messrs. Landers' hailed with joy the sight of the ocean, is at Cape Formosa, on the western coast. The villages and large populous towns were numerous throughout almost their entire route. We shall confine our extracts principally to the soil and productions of the country, by which the great importance of the discovery will be perceived. Badagry is on the coast where they first landed.

"The soil of Badagry consists of a layer of fine whitish sand, over loam, clay, and earth. The sand is so soft and deep, that no one can walk on it without considerable labour and difficulty. The natives procure the necessaries of life chiefly by fishing and the cultivation of the yam and Indian corn. In the former employment they use nets and spears, and likewise earthern pots, which they bait with palm-nut. These novel instruments are furnished with small apertures, not unlike those of a common wire mouse-trap. Oranges, limes, cocoanuts, plantains, and bananas are produced in abundance in the neighbourhood. The better sort of people are possessed of a small kind of bullock, with sheep, goats, and poultry; the chief himself is a drover and butcher, and when in want of money he orders one of his bullocks to be slaughtered and publicly sold in the market. The dwellings of the inhabitants are neatly constructed of bamboo, and thatched with palm leaves. They contain several apartments, all of them on the ground floor. Some of the houses or huts are built in the *coozie* form, which is nearly round, and others are in the form of an oblong square: all have excellent yards attached to them, wherein lime-trees and others are planted in rows, and it gives one pleasure to look at the cleanliness and taste which prevail in these courts. The land is excessively fertile; and if the natives could only be induced to lay aside their habitual indolence, and the sluggishness of their characters, and devote a little more attention to the improvement of the soil, the country might soon be brought to an extraordinary pitch of beauty and perfection. As it is, vegetation springs forth spontaneously, is luxuriant even to rankness, and is ever pleasingly verdant."

After several days journeying, they thus again speak of the beauties and natural history of the country.

"*Friday, April 2d.*—Between six and seven o'clock A. M., we continued our route through woods, and large open patches of ground, and at about eleven in the forenoon, arrived at the borders of a deep glen, more wild, romantic, and picturesque, than can be conceived. It is enclosed and overhung on all sides by trees of amazing height and dimensions, which hide it in deep shadow. Fancy might picture a spot so silent and solemn as this, as the abode of genii and fairies; every thing conducing to render it grand, melancholy, and venerable; and the glen only wants an old dilapidated castle, or a rock with a cave in it, or something of the kind, to render it the most interesting place in the universe. There was one beautiful sight, however, which we would not omit mentioning for the world;—it was that of an incredible number of butterflies, fluttering about us like a swarm of bees; they had chosen this, no doubt, as a place of refuge against the fury of the elements. They were variegated by the most brilliant tints and colourings imaginable—the wings of some were of a shining green, edged and sprinkled with gold; others were of sky-blue and silver; others of purple and gold delightfully blending into each other; and the wings of some were like dark silk velvet, trimmed and braided with lace."

Under date of April 4th, they are again struck with the number of butterflies.

"In the afternoon, or, as the natives express it, "when the sun had lost his strength," we departed from the town of Bidjie, accompanied by its good-natured, happy governor, and reached the banks of a rivulet called *Yow* in a very few minutes. Butterflies were here more numerous than can be imagined; millions of them fluttered round us, and literally hid from our sight every thing but their own variegated and beautiful wings."

"We therefore immediately proceeded, and traversed a rich and varied country, abounding plentifully with wood and water. A fine red sand covered the pathway, which we found to be in much better condition than any we had before seen. Sometimes it wound through an open, level tract of fine grazing land; and then again it diverged through forests so

thick and deep that the light of the moon, which had arisen, was unable to penetrate the gloom, and we were frequently left in midnight darkness. It would require greater powers than we are in possession of, to give an adequate description of the magnificence, solemnity, and desolate repose of the awful solitudes through which we passed this evening. They were enlightened, however, at times, by the appearance of glowworms, which were so luminous, that one could almost see to read by their golden splendour; and sometimes by the moonbeams, which trembled upon the leaves and branches of the trees. A fragrance also was exhaled from the forest, more odoriferous than the perfume of primroses or violets; and one might almost fancy, when threading his way through scenery which perhaps cannot be surpassed for beauty in any part of the world, that he was approaching those eternal shades, where in ancient times the souls of good men were supposed to wander. The woods rang with the song of insects and night-birds, which saluted us with little intermission till about ten o'clock at night, when we entered *Laatoo*, a large and pleasant town. Here we were informed that no house would be offered us, the fetish-priest having declared that the moment a white man should enter the dwellings of the inhabitants, they would be seized by their enemies and enslaved. We arrived thirsty and exhausted, but for a long time could not procure even a drop of water. Our tent had been left on the road for want of carriers, and we had made up our minds to rest under a tree, when about two hours afterward it was fortunately brought into the town. We fixed it immediately, and having succeeded in procuring wood from the unkind inhabitants, we kindled a fire in front of it, and our people laid themselves in groups outside, while we entered, and attempted vainly to sleep."

Under date of April 5th, they discover indications of improved agriculture.

"We have observed the country to be sensibly rising to-day; and agriculture appears to be conducted on a regular system, which is an evident proof of the active and industrious habits of the people. The gloomy fastnesses and wildernesses of nature, such as we passed on the first day or two of our journey from Badagry, are less common as we advance; and open glades, with plantations of bananas, and fields of yams and Indian corn, all neatly fenced, met our view from the path yesterday and this morning. The inhabitants of Larro also exhibit greater cleanliness of person and tidiness of apparel, than the tribes nearer the sea; and importunate beggars have disappeared entirely."

"The women of Jenna employ themselves generally, either in spinning cotton, or preparing Indian corn for food. Much of the former material grows in the vicinity of the town, but the cultivation of the plant is not carried on with the spirit it deserves. Silk, which is brought overland from Tripoli, the inhabitants sometimes interweave in their cotton garments; but such, being expensive, are only worn by the higher class of people. They have abundance of bullocks, pigs, goats, sheep and poultry, but they prefer vegetable food to animal; their diet, indeed, is what we should term poor and watery, consisting chiefly of preparations of the yam and Indian corn; notwithstanding which, a stronger or more athletic race of people is nowhere to be met with. Burdens with them, as with the natives of many parts of the continent, are invariably carried on the head; which, it is more than likely, occasions that dignified unrightness of form and stateliness of walk, so often spoken of, by those acquainted with the pleasing peculiarities of the African female. The weight of a feather is borne on the head in preference to its being carried in the hand; and it not unfrequently requires the united strength of three men, to lift a calabash of goods from the ground to the shoulder of one; and then, and not till then, does the amazing strength of the African appear. The greater part of the inhabitants of Jenna have the hair of their head and their eyebrows shaven; but the governor's *ministers* and servants wear their hair in the shape of a horse-shoe, as a mark of distinction. It is confined to the crown of the head by large daubs of indigo; and, none of the people presuming to imitate it, answers the purpose of a livery."

April 14th, after speaking of the terrific thunder storms attending that country, they say:

"Our journey to day has been exceedingly pleasant. Sometimes the path ran in a serpentine direction through plains covered with green turf; sometimes it led us amid large groves of stately trees, from whose branches a variety of playful monkeys diverted us by their mischievous tricks; and the gray parrot, with other beautiful birds,

"Warbled their native wood notes wild."

"For the first time since our landing, we have observed the loom in active operation. The manufacture of cotton cloth is carried on here exclusively by women."

Two days after, their path passed through plantations of yams, calavances, pumpkins, and three or four different varieties of corn. The hoe is the only implement of husbandry.

"*Saturday, April 17th.*—At the usual hour this morning we quitted Jadoo, and in the middle of the day arrived at a clean, pretty little village called *Pooya*. The appearance of the country between these places is extremely fine, and resembles a magnificent orchard. On our way we met many hundreds of people of both sexes and all ages, with vast quantities of bullocks, sheep, and goats, together with fowls and pigeons, which were carried on the head in neat wicker baskets. Several of the travellers were loaded with packages of country cloth, and indigo in large round balls. They are all slaves, and were proceeding to the coast from the interior, to sell the goods and animals under their charge."

"The scenery of to day has been more interesting and lovely than any we have heretofore beheld. The path circled round a magnificent cultivated valley, hemmed in almost on every side with mountains of granite of the most grotesque and irregular shapes, the summits of which are covered with stunted trees, and the hollow in their slopes occupied by clusters of huts, whose inmates have fled thither as a place of security against the ravages of the *war-men* that infest the plains. A number of strange birds resort to this

valley, many of whose notes were rich, full, and melodious, while others were harsh and disagreeable; but, generally speaking, the plumage was various, splendid, and beautiful. The modest partridge appeared in company with the magnificent Balearic crane, with his regal crest; and delicate humming-birds hopped from twig to twig with others of an unknown species; some of them were of a dark shining green; some had red silky wings and purple bodies; some were variegated with stripes of crimson and gold; and these chirped and warbled from among the thick foliage of the trees. It is the contemplation of such beautiful objects as these, all so playful and so happy—or the more sublime ones of dark waving forests, plains of vast extent, or stupendous mountains—that gives the mind the most sensible emotions of delight and grandeur, leading it insensibly

"To look from nature up to nature's God."

For myself I am passionately fond of them, and have regretted a thousand times over that my ignorance incapacitates me from giving a proper representation of them, or describing the simplest flower that adorns the plains, or the smallest insect that sparkles in the air. This consideration gives me at times many unhappy reflections, although my defective education arose from circumstances over which my boyhood had no control."

They speak of the bullocks as being as white as snow; spotted-like leopards, and dotted with red and black, on a white ground. They also admire a very large and handsome species of water lily. The ladies of Boossa, a city on the Niger, stain their lips red with a species of myrtle. The path of the travellers is frequently overhung by rank grass, three times their own height. We will conclude our notice of this work, with the following extract from a late English paper, which shows, in some measure, the importance attached to the discovery.

"Before this meets the public eye, the commercial expedition for Central Africa will have sailed from Liverpool. As a jealous secrecy has (perhaps with great propriety) been preserved concerning it, we have not much to add to the accounts we have already laid before our readers. The equipment consists of the *Quorra*, a steam vessel of 200 tons, and the *Elburha* steamer of less burden, which are expected to ascend the river as high as Boossa. Thence boats, and over-land excursions may convey our enterprising countrymen to places whither they may desire to go. As we have formerly mentioned, this is simply a mercantile speculation, though, in unison with the enlightened spirit of the times, it proposes to combine objects of greater and more general interest. The leading feature is, to introduce British manufactures into regions hitherto unknown to the civilized world; and, with traffic, to diffuse improvements of every kind of which the natives may be found susceptible. The vessels are accordingly laden with articles acceptable to the African population; and returns of African produce are anticipated by the shippers, to remunerate them even in the first instance. As we have also stated, government has nothing to do with the outfits of this expedition. Lieut. William Allen, of the Royal Navy, proceeds with it; but without rank or command, as a passenger, instructed to make surveys and observations, for which we learn he is well qualified by his scientific attainments. Richard Lander, to whom we owe this grand geographical discovery, may, of course, be considered as the head of the party, which he accompanies in his third voyage to Africa. With him is associated Mr. Laird, jun., of Liverpool, as supercargo. Mr. Laird, we understand, is an able engineer, and otherwise intelligent and well informed. Messrs. Briggs and Harris are the master and surgeon; and we presume the surgeon to be a sufficient naturalist, and especially a botanist, competent to investigate the very important branches connected with these sciences, either for phylosophical or commercial results. Altogether, we have fervent hopes respecting this design, and most heartily do we wish it success. We had almost forgot to notice that the travellers carry with them a number of copies of an address, prepared in Arabic by Mr. Salame, and intended to explain the objects of their visit to the native chiefs and kings. These are on all kinds of coloured paper; and being adorned with pictures of the two steamboats, are likely enough to be regarded not merely as ambassadorial letters, but as beautiful specimens of the fine arts, by the sovereigns to whom they are presented."

The Southern Planter, *and Family Lyceum*, Macon, Georgia, September 1, 1832.

This is a weekly publication, in the quarto form, published by M. Bartlett, at Macon, in Georgia. At this time in particular, when our country is agitated by sectional prejudices and political animosities, it is truly grateful to see the attention of our citizens drawn to the tranquil pursuits of rural life. Every true patriot in the North, will hail with delight, indications, on the part of his Southern brethren, to remedy existing evils by rendering their soil more productive, rather than by severing those ties of birth, and youthful growth, that have promised a perpetual and happy manhood.

The first number contains a notice of the formation of an Agricultural Society at Macon. The editor thus speaks of it.

"*A Good Beginning.*—An Agricultural Society has lately been got up in this place, and already numbers about 70 members. As it appears animated with a good deal of enterprise, we hope to see important results from its operation. This we believe is the only Society of the kind at present in the State; but we hope soon to see them springing up in every town and captain's district. Let this be done, and Agriculture would take a new start—this important, but too much neglected branch of industry, would assume the rank and respectability it is entitled to. Our old, worn out fields, would begin to assume a new appearance. Instead of bare red hills, we should see green fields and good crops. Instead of meagre, starving quadrupeds, fainting in the high

ways, our eyes would be greeted with sleek fat cattle, the very sight of which would do the heart good."

The following article, contains so much good sense, in relation to the tariff, compared with the political trash that appears on the subject in party papers, that we copy it entire. Our readers cannot fail to perceive, that if there were half as much excitement relative to rural improvements, as there is hatred to the tariff, Georgia and her Southern sisters would soon be in the full tide of prosperity.

"Among the trite sayings of casuists, perhaps no one approaches nearer to the truth, than that a "man is the slave of habit." Not one act in a thousand is the result of reflection, but of habit; for man has ordinarily neither time nor inclination to compare and deduce, and even in matters of importance, follows the general rule. Hence the perpetuation of absurd customs and opinions, and the pertinacity with which men cling to the most pernicious systems of economy, arts and agriculture. In exemplification of the latter, the Southern people, in the cultivation of cotton, are perhaps in the front of any nation really civilized. Notwithstanding the unparalleled increase of the culture between the Potomac and Sabine, which is more than equal to the whole consumption of America and Europe, and therefore of itself sufficient to reduce the price to the minimum of for what the staple can be grown,—notwithstanding the active and increasing cultivation of the article in the new and priceless but most general lands that lie between Louisiana and the Rio del Norte,—notwithstanding its extension in the teeming soil of the valley of the Nile, in which the husbandman thinks himself well rewarded with three cents a day,—its rapid advance under a genial sun in the mellow soil of Brazil, in which one acre of land affords sufficient nutriment for thirty souls during the year, and a breachclout answers all the purposes of clothing by day and a blanket by night,—its steady and swift progress in India, in which the labourer thinks himself lucky when he can obtain six dollars for his year's work, without food or raiment—and its inevitable introduction as an article of commerce in a year or two, in all the fertile and populous countries along the whole course of the Niger;—yet with all these facts obviously and notoriously before us, the positive evidence that "tariff or no tariff," cotton can never permanently rise in price, but must fall; the people of Georgia and the other Southern States are as fondly wedded to its culture as if nature had created them for it, and declared it a trespass to follow any other pursuit. But such infatuation cannot continue much longer. They cannot with reason hope to contend much longer in the European market, with the Brazilians, among whom money is thrice as valuable; with the Egyptians, whose labour is seven times as cheap, with the Hindoo, who toils for one twentieth of the money, or with the negro on the banks of the Joliba, who thinks himself well rewarded with the fiftieth. They must relinquish the foreign market, and call into action their own resources. The beef, pork, lard, butter, cheese, flour and garden seeds, which they now receive from the North, must be substituted by their own enterprise and skill. These articles amount annually to no inconsiderable sum. Let us make a calculation.

10,000 bbls of Flour at $8, - -	$80,000
5,000 bbls of Beef at 15, - -	72,000
100,000 lbs of Butter at 20 cents - -	20,000
50,000 lbs of Cheese at 12 1-2 cents	6,250
8,000 lbs of Pork at $15, - - -	120,000
100,000 lbs of Lard at 10 cents -	10,000
Garden Seeds - - -	25,000
Total for one year, - -	$393,250

"In relation to the pork, lard, and flour, it cannot be denied that Georgia is as well calculated to produce them as any part of the United States; and with regard to garden seeds, every horticulturist knows that seed acclimated, sprout with more certainty, grow more rapidly, bear the vicissitudes of weather better, and produce more abundantly, than those brought from a different climate: so that success, so far as those four articles are concerned, is no problem. With respect to beef, butter and cheese, I am aware that the want of good pasturage has been cited as impediments; but I know the objection is captious, or one that can be easily remedied. It cannot be denied, that in Rabum, Habersham, Gwinnett, Carroll, and the region included in Cherokee county, red clover luxuriates, as highly as in any of the Northern or Middle States, and that in the low ground the white trefoil thrives as low down as Camden county. Indeed, a strange misconception has obtained ground concerning white clover. It is in Georgia believed that it will not flourish in a warm climate, while it is a fact, beyond question, that it flourishes profusely not only as far south as the Balize, at the mouth of the Mississippi, but as high up the Nile as the cataracts in Egypt, where frost never falls. So that in any part of the State, clover of one kind or other may be had in abundance. If it be answered that the humidity of our spring weather is adverse to the conversion of a grass so succulent into dry provender, I rejoin, plant for fodder gama grass, the most prolific grass that matures out of the tropics, affording four or five cuttings in the course of the summer, and at the same time, but in different lots sow millet, which produces more to the square acre, than any species of clover, and has the additional advantage of an ear thrice as large as oats, and more nutritious and digestible. Millet has also another recommendation: it does not exhaust the land; but the roots being large restores it, so that by it the most worn out soil may retrieve its pristine vigour.—Thus a few days labour in spring and autumn would be amply sufficient to the production of the most nutritious provender for twenty or thirty head of cattle during the whole winter, (a season during which they ought to be sheltered at nights from the weather,) and red or white clover would in spring keep them in the best order, until the wild summer grasses were so matured as to furnish healthy grazing. By such management, cattle could, at a small expense, be kept all the year in prime order, fit for the shambles and for pickling, while cows would yield ten times the quantity they now give of milk, and of a quality in no wise inferior to that of the north.

But the benefit would extend further. The cultivation of millet, which is the staff of life in many isles of the Indian Ocean, and along the whole western coast of Africa,, would moreover enable us to raise our own horses, which, it is well known, are fifty per

cent more valuable in our climate, than those raised in Kentucky and Tennessee. Our annual importations exceed

2,000 Horses, at $75 - - -	$150,000
which added to the previous - - -	393.250
would be an annual saving of	$543,250

This, it will be observed, relates to the consumption of our own State. But the mildness of our climate and the superior fecundity of our animals, would be inducements for us to export, we might successfully compete for the supply of the Federal Navy, and undersel in the West Indies and on the Spanish Main, the farmers of the Eastern and Middle States, and thus have refunded to us a portion of the imposts levied on our imports, and barter for a considerable portion of the coffee and sugar for which we now give the specie. Allowing our exports of this description to

Amount to no more than - -	$56,750
Added to the before mentioned sum of - - - -	543,250
The annual saving would be	$600,000

But the net proceeds arising from the sale of hogs, horses and cattle, and their proceeds would fall far short of the real advantages secured by the farmer. The manure properly collected, fermented and applied, would enable him to raise twice the usual quantity of grain or cotton from his labour, and consequently be in cropping equivalent to a saving of one half the usual quantity of land, while he might dispense with the constant expense and toil of clearing new ground, and ultimately save him the sacrifice of selling his homestead for one fourth, of the original cost. In short, it would change him from a nomade into a settled farmer, holding out every inducement to his making permanent improvements, without dread of being in his latter days necessitated to plunge into the wilderness, in order to obtain land on which to raise his bread. In short, it would increase his profits and his comforts, preserve the value of land, arrest emigration, increase our population, favour the arts, and add to the physical strength, wealth, and independence of the State.

Goats too, as an article of healthy food, deserve the attention of the farmer. Summer and winter they need no provender; grass, buds and bark preserving them in excellent keeping.—To keep them from straying, all that is required is a shed to protect them from rain, and about a pint of salt per head in the year. As they more than treble annually, a flock of 64, would in 12 months increase to 192, of which the whole expense would amount to three bushels of salt. —Value the carcass at one dollar, and the skin at 40 cents. the interest on the capital of $92:60, would be $176:20, almost two hundred per cent.

The Sheep is another animal the raising of which deserves attention. Like the goat, all it requires are salt and a shelter, especially in the wire-grass region. It is, however, less prolific, the average increase being 100 per cent; ewes not unfrequently yeaning in spring and autumn; but the deficit is more than balanced by the value of the fleece, which in this country is shorn twice a year, yielding each time on an average, a pound and a half of wool, or three pounds per annum. The wool readily commands thirty seven and a half cents, a sheep bringing two dollars.

Thus a flock of 100 at $2	$200	
Salt, 3 bushels . .	3	
		203
Increase 100 Sheep at $2,	200	
Wool, 300 lbs, at 37 1-2 cents	126:50	
Interest on 203, for 1 year		326:50

Larger flocks, say of from two to four thousand head, would be less profitable, as they would require shepherds, each accompanied by two or three well trained dogs, and extra hands during the operation of shearing Still, after deducting all expenses, the profits would nett more than one hundred per cent on the capital invested—interest four times as great as that made on cotton by the most experienced, industrious and economical planters.

It may indeed be objected by the captious and short-sighted, that a few thousand sheep more than are already in our State, would glut the market, and render wool valueless. To such I reply, that as cotton now hardly pays for the labour, and must inevitably fall still lower, "tariff or no tariff," our citizens must shortly fabricate their own woollens, or die of cold, that in less than three years woollen fabrics will be established in our own State, and wool consequently rise. Instead of importing annually from Europe and the Northern States

20,000 Blankets average $1 50	$30,000
500,000 yards woollen cloth, averraging 75 cents - -	370,000
these	$400,000
worth of woollens will be made at home; and 200,000 pair of shoes at 1 dollar	200,000
And Leather, Harness, etc.	50,000
worth	$250,000

tanned, curried and worked up from our hides in our State, and by our workmen, which added to the preceding items, amount to $1,250,000.

The same necessity that will force us into the foregoing branches of business, will also compel us to manufacture our own salt, which will be another benefit to our State, by keeping amongst us about 215,000 in specie, which annually goes to Cape de Verds, St. Ubes, Turks Island and Liverpool. On the seacoast of Georgia, the article can be made during nine months out of the twelve, and on the single island of Sapelo, vats enough may be fixed to supply the whole of the State at twenty five cents a bushel.

I might proceed to the manufacture of cotton fabrics, and the preparation of iron at the coal mountains in the northwestern part of our territory; but I have said enough to show that Georgia has resources adequate to her own wants and comforts, that to them necessity will shortly compel her to resort, that the sooner she does so the better, and that those who are the first to lead the way, must be the greatest gainers. It is high time to change our habits when they have brought us to the verge of beggary.

AGRICOLA."

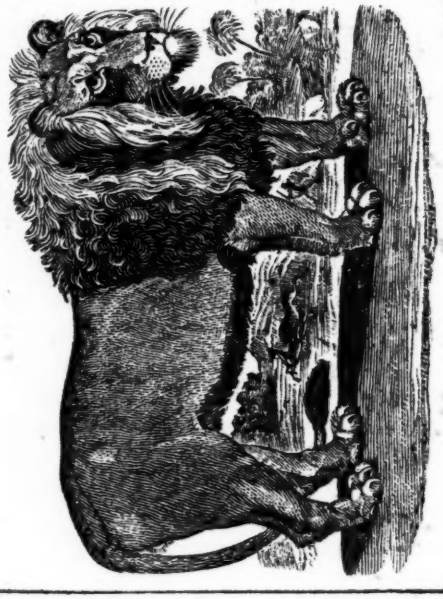
Pyrus Malus Brentfordiensis; *A Concise Description of* 170 *Sorts of Selected Apples.* By Hugh Reynolds. 4to. Price 4*l.* 4*s.* or 5*l.* 5*s.* with a coloured figure of each. London: Longman, Rees, Orme, Brown, and Co.

This is the title of a splendid 4to. work upon apples, by Hugh Reynolds, Nurseryman, which issued from the London Press in 1831. It contains a description of nearly 200 select apples, and a figure of each, of natural size and colour, executed in the most elegant style by his daughter. I do not know of any work upon fruit which excels this, either in the neatness of its letter-press, or the beauty of its colourings. Mr. R. tells us that he has devoted more than half a century to the production of the apple, and that he has figured and described those which he deemed excellent. It is unquestionably a work of high merit; yet I confess my disappointment on examining it in detail. The descriptions are too concise for an ardent pomologist, with whom the work would have possessed more interest, had synonyms been given and the time of the fruit ripening been in all cases stated. Among the apples figured, are several of American origin; and in them Mr. R. has not been altogether accurate. For the Newtown pippin he has given us the figure of the Fall or Holland pippin, and which, according to the Pomological Magazine, is the same as the Spanish Reinette, and for the fall pippin, he has figured the yellow Newtown pippin. Both Mr. Reynolds and the editor of the Pomological Magazine seem not to understand the character of our Spitzenburghs; the figure of the Newtown being given in both works as our best variety: whereas the fact si, this is very inferior to the Esopus, and also to the Pawnal and white varieties. This error may be accounted for from the fact, that the climate of England will not ripen the Esopus without the aid of a wall, and the other kinds have probably never reached that country.

One circumstance which I notice in all the European pomological works, seems to have been unattended to by our nurserymen, and too much neglected by their customers, and that is, the peculiar qualities of an apple for cooking are particularly stated, while some kinds will readily break down into a soft pulp, and afford an agreeable acid, other kinds, though esteemed for the table and for cider, are totally unfit for culinary purposes. The public ought to be informed by the nurseryman, of the kinds best adapted to each purpose, that the purchaser may be able to select a succession for the kitchen as well as for the dessert. Such a practice tends to promote confidence between the buyer and seller, and to advance the science of horticulture.

B.

NATURAL HISTORY.



Attack of a Lioness.

On Sunday evening, Oct. 20, about a quarter before eight, the mail coach, from Exeter to London was attacked at Winterslow Hut, seven miles from Salisbury, in a most extraordinary manner. At the moment when the coachman pulled up to deliver his bag, the off leader was suddenly seized by a ferocious animal. This produced great confusion and alarm; two inside passengers got out, ran into the house, and with little ceremony proceeded up stairs, where they locked themselves in; the horses kicked and plunged violently, and it was with difficulty the coachman could prevent the carriage from being overturned. It was soon perceived by the light of the lamps, that the animal which had seized the horse was a huge lioness; and which it appeared, had escaped from a caravan standing on the road side, belonging to the proprietors of a menagerie, on their way to Salisbury Fair. An alarm was given, the keeper immediately came forward, and rendered every assistance. A large Newfoundland dog, between which and the lioness a fondness had existed, was set at her, and seized her by the leg. The lioness, on finding herself attacked, quitted the horse and turned upon the dog, which it was expected, would very soon become the victim of her fury; but the animal, with more reproach than viciousness, inflicted a slight punishment on it, and on hearing the voice of the keeper, retired underneath a stable granary, where soon after, the keeper very deliberately got in, put his arms around her neck, and secured her without any further injury. The lioness, it appears, attacked the horse in front, and springing at its throat, had fastened the talons of her fore feet on each side of his neck, close to the head, while the talons of her hind feet were forced into his chest. In this situation she hung, while the blood was seen flying, as if a vein had been opened by a lancet. The ferocious animal missed the throat and jugular vein, but the horse was so dreadfully torn, he was not

expected to survive. The expression of agony, in his tears and moans, was most piteous and affecting. He was a capital horse ; and a great favourite of the proprietor.—A fresh horse was immediately procured, and the mail drove on, being detained three quarters of an hour. The lioness is an uncommonly fine young animal, only five years old ; and the manner in which she was secured, after her attack on the horses, affords a remarkable proof of the extreme state of tameness to which such ferocious creatures are brought by the management of their keepers ; when she had retired under the stable granary, her owner and his assistants, after a short deliberation, followed her upon their hands and knees with lighted candles, and having placed a sack on the ground near her, they made her lie down upon it ; they then tied her fore-legs, and passed a cord round her mouth, which they secured ; in this state they drew her out from under the granary, upon the sack, and then she was lifted and carried by six men into her den in the caravan. To the astonishment of every one who beheld this part of the transaction, which lasted about a quarter of an hour, the lioness lay as quietly as a lamb during her removal to the caravan ; but when there, she became sensible of the restraints she was under, and her rage was excessive, till the cords which annoyed her were loosened.—*Curiosities of Nature.*

To Destroy Ants.—Having read in pages 278 and 279, two complaints against ants, I am induced to send you the following : Some time ago, a drawer, in which I kept sugar, was so much infested with ants, that we were obliged to remove the sugar from it. It happened, from some cause or other, a small piece of camphor was laid in the drawer, and on opening it a few days afterwards, we were agreeably surprised to find the bottom literally covered with dead ants. This induced us to repeat the experiment, and from that time we have found no difficulty in keeping the sugar free from their depredations, by allowing a small piece of camphor to be in one corner of the drawer. Where trees upon walls, or plants, are infested, I should recommend small pieces of camphor, to be thrown on the ground, round their stems, and in some cases to dissolve a little in alcohol, and sprinkle it over the the leaves in a diluted state, with a common syringe. John J. Godfrey.

Albany, March 3, 1832.—Hort. Reg.

Active Molecules.

Butterflies and Moths.—We cannot enumerate all the different sorts of these beautiful insects, and it is impossible to describe the variety and splendour of their plumages, surpassing all the magnificence of the richest and most costly dress. All the butterfly and moth tribes are bree from caterpillars. The number of these insects is very great ; Linnæus reckoned eight or nine hundred different kinds, some of which are extremely rare, and only found in particular places. The legs, antennæ, the eyes, in fact every part, when examined by the microscope, afford the highest entertainment.

Dust of the Feathers of a Butterfly's Wing.—The wings in themselves are, like the common fly's, transparent, but owe their opacity to the beautiful minute feathers which cover them and, examined by the microscope, nothing can exceed the beautiful and regular arrangement of these little substances, which, by their different colours, serve to paint the wing, and by their regular layers, much resembles the tiles of a house-top. Carefully brush some of the dust off on your slide, between two pieces of talc, place it under the microscope, and you will be richly rewarded for the trouble taken. With a high power and strong light, beautiful prismatic colours and lines may be discovered.

The Hair-like Animalcule.—This wonderful little insect, from its resemblance to a fine hair, is called the hair-like insect. All its motions are extremely slow, and require much patience and attention in the observer ; it has neither feet nor fins, but appears perfectly smooth and transparent. These creatures are so small that millions might be contained in a square inch ; they are found in the sediment or mud in ditches, and sometimes in vegetable infusions ; a quantity of this should be procured, and put into a glass vessel ; myriads may be seen to crawl up the sides of the glass.

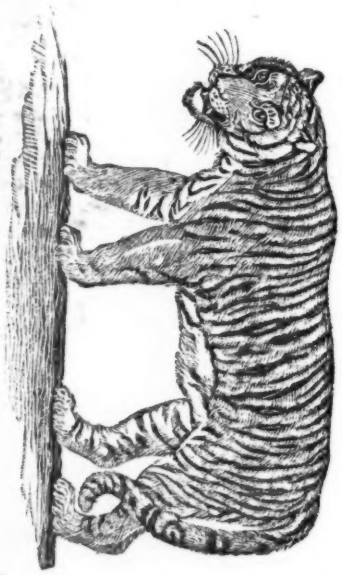
The Oat Animal—In the same water or sediment may be be found the oat animalculo, so called from its resemblance to a grain of oats ; it is inclosed in a shell, which it opens and shuts, but can change its place only by sudden jerks or leaps. This little creature is so extremely small, that it requires the greatest magnifier to examine it.

Cheese Mites.—Mites are those minute creatures found in cheese. To the eye they appear like moving particles of dust, but the microscope discovers them to be animals, perfect in all their parts, having as regular a figure, and performing all the functions of life as well as those animals, which are many millions of times their size. The head is formed like a pig's, they have two small eyes, and are extremely quick-sighted. Each leg has six joints, with claws. The body is covered with long hair. These creatures, male and female, are produced from the eggs, and come forth perfect insects ; though extremely minute, you may sometimes see them break the shell and force their way out. The egg itself is a curious object for the microscope. The mites may be kept alive for months, between two glasses, or in the object box. The best method of preserving them for the microscope is to put some bits of old cheese into a small phial, and pierce some holes in the cork for air : by gently heating the bottle, they will crawl up the sides, and through the holes of the cork, and can be brushed off with a camel-hair brush, free from dirt on the glass. Mites may also be found in stale flour, or in the dust of the dried fig. Mr. T. Carpenter, among many curious anatomical dissections, has succeeded in dissecting the jaws of one of these insects, and displayed them beautifully between two pieces of glass : they are, as may be supposed, extremely delicate, but can be seen very distinctly.—*Naturalist.*

Tiger Hunting in India.

On the march of our detachment, July 6, 1816, from Louton to Bulrampore, to join General Wood, we arrived at our first ground of encampment, about 8 A.M. Soon after our arrival, the Zumeendar of the village came to us to complain, that a tiger had taken up his quarters in the vicinity, and committed daily

ravages amongst the cattle; he had also killed several villagers, and had that morning wounded the son of the Zumeendar. On this information, Lieut. Colnett, Cap. Robertson, and Dr. Hamilton, mounted their elephants, and proceeded to dislodge the animal. They soon discovered the object of their search; Lieut.



Colnett's elephant being a little in advance, was attacked by him; the other elephants turned round and ran off to a short distance. The tiger had sprung upon the shoulder of Lieutenant Colnett's elephant, who in that situation fired at him, and he fell. Conceiving him to be disabled, Lieut. C. descended from the elephant, for the purpose of despatching him with his pistols, but in the act of alighting, he came in contact with the tiger, which had only couched for a second spring, and which, having caught hold of him by the thigh, dragged him some distance along the ground.—Having succeeded in drawing one of a brace of pistols from his belt, Lieut. Colnett fired, and lodged a ball in the body of the tiger, when the beast becoming enraged, shook him violently without letting go his hold, and made off towards the thickest part of the jungle, with his prey. In the struggle to free himself from the clutches of the animal, Colnett caught hold of him by both ears, and succeeded after some time, in throwing the beast upon his side, when he availed himself of this momentary release to draw forth the remaining pistol, and clapping the muzzle to the breast of the tiger, shot him through the heart. He then returned to his elephant, which he mounted without assistance, feeling at the moment little pain from his wounds, of which he had received no fewer than five and twenty, between the knee and the groin, many of them severe. I understand, he has ever since continued to suffer from the consequences of the conflict, and that he has lost the motion of that knee, which was the seat of the principal injury."
—*Calcutta Times.*

King Bird—*Bee Catcher.*—Mr. Editor, I have kept bees for several years, and have always observed that the King Bird was remarkably busy in the vicinity of my bees from about the first of June, till the middle of September, and that too, in the afternoon, in fair weather. Having heard it argued by some, that this bird caught and devoured bees, and by others that they did not, I determined this season to satisfy myself whether they did or not. I therefore killed a number of them, and upon examination found their *gizzards*, (I could not discover that they had any *crop,*) filled with *bees*, some nearly entire, and some in fragments, and upon further examination, found that the bees were all *drones.* I am therefore satisfied that they do not meddle with the *working* bees, unless through mistake. The question naturally arises, Is the swarm injured by their preying upon the *drones?*—*Genesee Farmer.*

Insects.—To destroy ants in drawers, on trees, plants, &c. apply a little camphor. To destroy woodlice, crickets, and black beetles, take 1 pound of oatmeal, and half a pound of coarse brown sugar, mix them and two ounces of pepper, ground fine; lay it upon pieces of pot where insects frequent. To destroy slugs, &c. take cabbage leaves, and hold them before the fire till they are soft, then rub them in fresh butter, or dripping; lay them in places visited by slugs, and when the leaves are infested with them, destroy them as you think well. Woodlice and earwigs are attracted by the same. To destroy the black and green fly, take yellow clay and work it in a tub of water till it becomes of the consistence of paint; put some of it in a pan and dip the parts of the branches that are infested with it, and the insects will be destroyed for the season. Pepper, sugar, and water, will effectually destroy flies and wasps.—*English paper.*

SCIENCE.

[The following is from a young writer.—We hope he will continue to send us the productions of his pen. Observation, study, and frequent writing, will render him useful.—*Ed.*]

TO THE EDITOR OF THE NEW-YORK FARMER.

Study of Botany.

Botany is a science which teaches us the knowledge of plants or vegetables, the arrangement of their classes, and of their medicinal or noxious qualities. That this science is intimately connected with medical science cannot be disputed; for it is well known, that, at the time America was settled, the native tribes were in possession of many valuable vegetable remedies, discovered by long experience, the knowledge of which they gradually imparted to their neighbours. Their remedies have partly been adopted and partly rejected, by physicians both in Europe and America. But since the United States have become an independent and flourishing nation, much has been done to teach and to spread correct systematic and medical botany. And it still remains a lamentable and deplorable fact, that few, comparatively speaking, have any knowledge of this science. But we are happy to state, that there appears to be a greater degree of engagedness and attention to this subject, than has been heretofore manifested. Notwithstanding it is so very simple, and that so many efforts have been tried to pro-

mote the advancement of the science, little attention has been paid to it. Although flowers, apparently, are so diversified, they consist of but eight parts, 1st pistillum, 2d stamen, 3d corolla, 4th calix, 5th nectarium, 6th pericarp, 7th semina, 8th receptaculum, or basis, upon which the other parts rest.

The pupil by becoming acquainted with these parts and their situation, which may be acquired by little attention, and by the aid of a botanic dictionary, may be able to analyze the greater portion of plants, with which he meets. And in a short time, by a little practice, he will become an able Botanist.

This science, of all others, deserves the greatest degree of attention; for it is one, in which every person is, or should be, particularly interested.

Readers, you who have occasionally a few leisure hours, profit yourselves, by turning your attention to the study of this science. Do not throw yourselves wholly upon the productions of others, by which you will be liable to be led astray by misconceptions or erroneous ideas of the author: but collect, analyze, and compare, and thus satisfy yourselves of the pleasure and benefit which may be derived from this branch of education. This science as an amusement, is both pleasing and instructing to the mind desirous of becoming acquainted with nature's works. It leads us into different sections of the country in search of those plants, the qualities of which have been described to us, as being medicinal or noxious. There we behold the grand display of nature's works. There we see the earth's surface clothed with an innumerable variety of the vegetable family, the functions of which are as liable to derangement and death as those of a human being.

Besides, it affords us the pleasure of becoming acquainted with the wonderful works of nature, instils into our minds new and useful ideas, and fills them with the most exalted admiration of the great Creator of the universe. At one time we see the plant springing from the seed, which nature hath sown, and putting forth leaves, tendrils, and flowers, the beauty of which, the artificials of the most perfect and experienced artist cannot equal. At another time we see it destitute of the flowers, with which it was once ornamented, and of the green foliage which gave it the beautiful and healthy appearance, withered and mouldering into dust from which it sprung. We can behold the existence of a Deity, in the progress of the whole vegetable kingdom, from the time of their springing from the earth manifesting his support and protection over them.

With respect to the pleasure, I presume no one will pretend to insinuate, that it is not pleasant, and likewise very advantageous, when fatigued by confinement or by a steady application to any of the more abtruse studies, to traverse the country, gather and analyze the minute structure of different parts.

There is also another pleasure to be enjoyed; after having collected, analyzed, and preserved the plants, in the middle of the winter we may turn to our herbarium, and view the plants in all their primary beauty, recall to our minds all the pleasure, which we enjoyed when we were gathering and preserving them; and bring to our view the pleasing scene of summer, when the earth's surface is overspread with nature's green mantle, adorned and variegated with so many beautiful blossoms. FLORA.

Rensselaer County, Sept. 5th, 1832.

AGRICULTURE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Stirring the Soil in dry Weather.

MR. EDITOR.—In your paper for July, you request my views of ploughing and hoeing. I give them freely. I say, plough and hoe in dry weather, every weed left standing will rob the crop of a portion of the food and moisture necessary for its support. Earth kept light and loose by the hoe and plough, and heated by the sun, becomes a powerful absorbent and attracts moisture and food from the atmosphere. Take one ounce of caustic pot-ash, put it in a piece of milinet, and suspend it in a free current of air; set under it a bottle with a glass or earthern funnel, so as to catch the drops. In a few days the pot-ash will all be dissolved, and fourteen ounces of caustic ley will be found in the bottle. This experiment shows conclusively, that the atmosphere contains much moisture, and we all know it contains the principal part of the food of plants. This moisture and food is powerfully attracted by the absorbent and heated earth, but this food and moisture rarely reach the ground. They are taken up and assimilated by the capillary vessels of the plants. The moisture is not attracted upwards from the earth, but from the atmosphere. Of this fact we may be convinced, by stirring the earth in the morning, the upper surface may be a little damp, but the under surface will remain dry. I would therefore advise every farmer to destroy weeds, and to plough and hoe in dry weather, morning, noon and night. Their crops will be the better for it, for earth when baked hard, and covered with weeds, can afford little nourishment to the crops. Such are my ideas and observations on this subject.

I remain, yours as ever,

R. M. WILLIAMS.

Middlesex, August 17, 1832.

REMARKS.—We were convinced of the importance of stirring soils in dry weather. The particular point of inquiry was, whether it was advantageous to plough and hoe in the heat of the day, when the moisture and gasses are ascending from, rather than descending to, the surface. Much of the carbon which plants derive from the atmosphere is probably conveyed to them through the agency of the absorbed vapours. To condense these vapours, we must make the surface of the ground cooler than the atmosphere. Stirring soils in the after part of the day, will prevent a condense of vapours, until the succeeding meridian sun. It is not the chemical affinity, existing between the substances of the soil and the gasses of the atmosphere, that promotes fertility in this particular case, but the diminished temperature of the surface brought into contact with the atmosphere. It is true, that the plough turns up a cool soil in the middle of the day; but it immediately becomes dry and heated, and does not probably retain the gases sufficiently long to benefit plants. We think Judge Williams has not exactly apprehended the question. —*Ed.*

FOR THE NEW-YORK FARMER.

Seed Wheat.

Mr. Editor—The preparation of wheat for seed, seems to have divided the attention of our farmers to a very considerable extent. I know no practice better than the one I have used for some years past. It is as follows:—

Take two wash-tubs, fill one of them two-thirds full of cold water, put in as much common salt as the water will dissolve cold, pour into this brine about a bushel of seed wheat, and stir it about for two minutes. All the chess and light and imperfect grains will rise to the top, and may be skimmed off. Then lay two sticks across the empty tub, on which set a large basket, and pour the wheat and brine into it, the brine will run into the empty tub, leaving the wheat in the basket, which may be emptied on a clean floor; then put in another bushel of seed wheat, stir and skim as before, and so proceed till you have the quantity wanted. Your wheat may then be spread two or three inches thick over the floor, and about two quarts of lime the bushel sifted over it, stirring it frequently with a rake, in order to bring each grain in contact with the lime. Let it lie from twelve to twenty-four hours and it is fit for use. If cockle is in the seed wheat, it should be run through a screen before it is wet; if any rye, it may be cut out before harvest in the field.—The main object of putting salt in the water is to increase its specific gravity, so as to enable it to float the trash and light grains.

By this method, none but the best grains will be committed to the earth, and I believe the smut and eggs of the Hessian Fly are effectually destroyed by the salt and lime, and that the succeeding crops will be more likely to be clean than by any other mode of preparing the seed. Yours, &c.,

Middlesex, Sept. 4, 1832. R. M. W.

Agricultural Fairs.

We were truly in hopes that the respectable and worthy members composing the General Committee of the New-York State Agricultural Society, would have taken measures for the formation of county societies throughout the State. In the southern counties, particularly, we were desirous to see a spirit for these associations excited among farmers. We are confident that the disposition of the yeomanry, is generally so far from being unfavourable, that it only requires two or three individuals in each county, to unite and go forward. Why are not the cities and the principal villages in the State, alive to their interest in getting up fairs in their vicinity? Why do not the Corporations of New-York and Albany give countenance to these undertakings, with a view to improve their markets, on which the health and prosperity of cities very considerably depend? Let us hear the opinion of one whose long experience, and known respectabiiity, give weight to his remarks.

Mr. Fessenden.—It is very well known, that for a long succession of years, I took a deep interest in the Cattle Show and Ploughing Match, at Brighton. It was upon a firm conviction, derived chiefly from having attended the shows at Smithfield and Lewes, in England, in 1804, that the tendency of such shows was to produce and encourage improved races of animals. When cattle are sold and slaughtered *separately*, there is no means of comparing them. Their weight simply is known, but their forms, the proportions of edible and valuable parts to offal, is not ascertained. But when from a whole State, or (as at Smithfield,) a whole kingdom, the choice animals are reserved for exhibition, opportunities are afforded to judge of the comparative merits of different races. This effect has been so great in Great Britain, that there is no question as to the comparative value of the different races. At least, the question is chiefly reduced to two races, the Short Horned, and the Herefordshire. The Devonshire cattle are still, however, believed by many to be as profitable as either of the others. From experience of the effect of cattle shows, it was obvious, that the character of our stock improved for many years, *regularly*. I have, personally, no doubt, that the breeds of our cattle have been greatly and essentially improved by foreign crosses. Though a farmer on a small scale, I can safely say, that such has been the result with me, of fifteen years experience.

As to the ploughing match, there can be no question, in the mind of any unprejudiced person, that the ploughs, and the modes of ploughing, have received improvements, of which it would be impossible to estimate the value. Those who have not taken the trouble to estimate the effects of a saving on *one* farm, upon the aggregate of 50,000 farms, which this state includes, upon the supposition that the local societies dispersed throughout every county of the state have had an equal influence in the improvement of ploughs, and the modes of ploughing, as have been produced in Norfolk and Middlesex by the parent society, can have no adequate idea of the advantages produced to the state at large by this excitement, and the consequent attention of the farmers to the improvement of their implements of husbandry. In my own vicinity, the effects have been far beyond our warmest hopes, and we can have no surer or safer test of this improvement, than the fact, that an establishment for the sale of agricultural implements in Boston, where none existed before these cattle shows were established, has met with great and well deserved success. An opinion however prevailed, which experiment has shown to be wholly erroneous, that the cattle show at Brighton was rendered useless by the country cattle shows—that it was mere parade without any corresponding benefit.

Yielding rather too hastily to this suggestion, the Trustees of the Massachusetts Agricultural Society suspended their show. But the event proved most distinctly, that the opinion was erroneous. So far from increasing the splendour and importance of the great central show at Worcester, it rather diminished it, and we are convinced, for the encouragement of the country shows, that the great central one, near the metropolis, is highly important and essential to the great object of the farmers, the encouragement by rewards and exhibitions, near the *ultimate* market of all extraordinary animals.

Deeply impressed with these views, the Massachusetts Agricultural Society have resolved to continue their exhibition, with all the spirit and energy in their

power. They have provided for this purpose, by individual personal exertion, very superior accommodations for the public, and they hope to open their show the present year, with increased advantages. They solicit the *attention* and the *presence* of *all the friends of Agriculture*, of *Commerce* and *Manufactures*. These interests are, in their very nature, inseparable. The city of Boston is much more interested in the success of this show in *its vicinity*, than any farmer, or any farming town can be. To the *latter*, the interest is small; to the *city*, in which all the interests of the state are concentrated, it is *vast*. If the city authorities view it in this (which I believe to be the true) light, they will, as a body, zealously co-operate in giving as much patronage and encouragement as possible to this show. For what, in fact, does it amount to? It is the diversion of the trade, which would go to New-York, to our *own capital*. It is securing to ourselves the great *cattle market*, (the greatest resource of New England.) These remarks are made at the request of the Committee for the cattle show, and are given with great cheerfulness by one, who is now past all active exertion, from sincere interest in a great and important occasion.

J. Lowell.

Roxbury, August 30, 1833.

Wheat turning Chess.

The following article on chess is the best, and the most practically useful, we have read, in favour of wheat turning into chess. It was communicated to the Genesee Farmer, by Gideon Ramsdell, of Perrington:

"The chess of wheat, rye, and flax, are all different in size and shape; each having an affinity and bearing a resemblance to its parent stock, and I do not consider it to be an original grain at all, but the natural offspring of degenerated wheat, rye, and flax. My first observation was about twenty years ago, when I sowed 20 acres of wheat on new land, in a very dry time; it required much harrowing to bury the grain a sufficient depth, whilst about the stumps the wheat remained uncovered, I supposed the birds would pick it up if left exposed; to prevent them I undertook to hoe it in, and beginning on one side of the lot, I hoed over about one half of it well, when I was called away, and did not return again for about three weeks, during which time it had continued very dry—my wheat was generally up, except that about the stumps, which had generally sprouted and taken a little root; I thought it best not to disturb it with a hoe. When it came harvest time, it was an evident fact, that all the wheat which was not hoed in around the stumps, brought forth nothing but chess, while the rest of the field was nearly clean.

I have since taken what I call degenerate wheat, by which I mean to be understood, wheat that has lost its spirit, the essence, or its *best property* having been extracted, which is easily known by its having a sweetish, sickening, insipid, flat taste, which has been effected by frequent wetting and drying, shrinking and swelling. Wheat of this description, I have taken and sowed carefully, and in such a manner as satisfied me that it did not, nor will not, produce any thing but chess. Indeed, the very hulls of the old wheat were so attached to the chess root, that no critic could separate them.

"I do not hesitate in saying, that more chess can be grown from one pint of wheat, than from three pints of chess. The chess from wheat grows very strong and flourishing, whilst chess from chess, has a stunted, diminishing appearance.

"I shall not say with certainty, but I very much doubt, whether chess will produce chess in succession many years together, unless renewed from the wheat, it partakes so *strongly* of the *mongrel*. Every farmer who suffers his wheat to remain out of door for a long time after cutting, exposed to rains, dews, and a scorching sun, contributes in raising his own chess, from the outside of bundles which are often sprouted; and every field that is put in poorly, and the ground dry for a long time, the uncovered wheat will always produce chess, *as a natural consequence*.

"One fact more, and then I have done for this time. I helped one of my neighbours to harvest a very good crop of wheat, when it was extremely dry; we supposed it shelled all of two bushels to the acre. The land was of an alluvial soil, and very rich. Something like a month after, he ploughed it in the best manner, and supposed the wheat came up remarkably well, and *looked* finely the next spring. He observed to me one day, that his wheat bid fair for as good a crop as the preceding one. But, to his astonishment, at the time of harvesting, I suppose there were twenty-five bushels of chess to the acre, and not one bushel of wheat.

"Why do farmers find more chess on the outskirt of their fields? To my mind the answer is, that more of the seed is never covered with earth.

"I will mention one more corroborating circumstance, which has come within my knowledge this year. Last season, I ploughed up three acres of very rich meadow land, of a dark, moist, sandy loam—planted it with corn, and cultivated it in the best manner; it produced about 80 bushels of corn to the acre, without manure.

"About the middle of ninth month, we cut up the corn, setting fifteen rows into one, making a large shock on every other hill;—the lot was sown from picked wheat, taken or gathered in small bunches, containing say 150 or 200 heads each, and selected with the greatest care; I do not think one kernel of chess was gathered or sown in the lot, which is enclosed with a sufficient fence, and every thing on the farm kept out. I inspected it yesterday, and found that the chess has grown up along side where the corn was shocked, as we could not work with the plough or harrow in every space or neck on either side the shocks of corn—of course chess grew instead of wheat, (not cockle instead of barley.)"

Bushes.—It is undoubtedly true, that cutting bushes in the summer will do more towards destroying them, than doing it in any other season, particularly in August. Other circumstances being equal, the wettest weather is the best for destroying shrubs by cutting. Spreading plaster on ground where bushes have been cut, may tend to check their re-shooting, by encouraging the growth of grass.

It is said to be a good method of destroying bushes, to cut them with hoes close to the surface, when the ground is frozen hard; and that more may be destroyed in a day, in this way, than in the usual method of cutting with a bush scythe.

Bushes which grow in clusters, as alder, &c. may be expeditiously pulled up by oxen; and this is an effectual way to subdue them.

Elder is considered harder to subdue than almost any other kind of bush; mowing them five times in a season, it is said, will not kill them. The roots of the shrub oak will not be killed but by digging them out.

To destroy bushes in swamps; flooding two or three summers is the most approved method. But if this is not convenient, draining will so alter the nature of the soil, that the shrubs, which it naturally produced before, will not be any longer nourished by it; and one cutting may be sufficient.

After all, extirpation, by digging them out, and by fire, is cheapest and most effectual.—*Farmer's Guide.*

A Fine Calf.—We have a bull calf, now four month's old, that is really a prodigy both in size and form. We have seen many of all the different breeds, but never saw one of its age that would either weigh, or measure with this one by one-third. There is a full-blooded Durham Shorthorn bull that runs with him, *nine months old*, that will neither weigh nor measure with him by twenty-five per cent. He is heavier than a two year old Devon heifer that runs with him. His form is as remarkable as his size. His chest is deep, deep, loins broad, ribs barrel form, breast full, hams square, and legs short and straight. His hair is long and silky, and color bright brindle on a white ground. The dam of this calf is a very large well formed cow of the Teeswater and Holderness breeds—the sire of the calf is of the same cross, which is said to be the origin of the Durham Shorthorn breed. We cannot judge of the quality of this cow as a milker, as she has always been allowed to raise her calves by suckling, but Mr. Sprigg of Washington county, Md. who raised her, considers her and the breed equal in all respects to any other breed. The cow is a *buffalo*, or horn-less cow, and the calf will probably be the same, as there is no indication of horns as yet. We consider this calf the most valuable animal now in this country for improving stock, and he will be sold for one-half the price usually charged for Durham Shorthorns. The cow is six years old last spring, and the two will be sold together for $175—or $100 for either, if immediately applied for.—*American Farmer.*

Mangle Wurzel.—This root is not sufficiently known or cultivated in this country. Last spring we had prepared a peice of ground for early corn, but there being more than we wanted for that purpose, we split the lands and planted half an acre in mangle wurzel, dropping the seeds one foot apart. We have run a small plough through them twice, and hoed out the weeds once. Many of the roots are now eighteen to twenty inches diameter [circumference?], and eight to twelve inches long. The piece of ground will undoubtedly yield a greater weight of food for cattle than could have been obtained from it in any other vegetable. To insure the speedy and general vegetation of mangel wurzel seed, it should be soaked in warm water twelve hours before planting. The seeds of this, as well as all other beets, are a long time in vegetating, and may never come up at all, when not thus soaked. —*American Farmer.*

Feeding of Cattle.—It is stated by M. Dubuc, of the Agricultural Society of Rouen, that three measures of oats, pounded or broken up, (concassees) and moistened, are equivalent, as aliment, to four measures given in the gain.

It is observed, also, that four parts of different kinds of forage, coarsely chopped, and deprived of dust, will go as far as five parts of the same forage, given entire and separately.

There exists in Paris, an establishment, where mixtures of food are prepared, on this principle, for horses: it is that of M. Payen. The kinds most generally mixed, are clover, and lucerne. They are then cut up, so that the horses are obliged to chew and masticate them in the most perfect manner.

The mixture of vegetables, which is considered the most suitable for draught horses, is composed of equal parts of cut straw, clover, and common hay. Barley and oats coarsely ground (concassees) and mixed, answer a better purpose than when eaten separately.

M. Dubuc visited this establishment, and found that the horses which worked the machinery, are fed in this manner, and that they look well, and are vigorous, though kept at work ten ar twelve hours a day. He cites, also, the teams of M. Sevin, mail contractor at Orleans, whose horses were fed on cut straw, mixed with one fifth of clover and lucerne, and sometimes a little hay. They were fat, strong, and substantial. They give them also, barley or oats crushed (concassees) and moistened. Care must be taken to place this food in deep mangers, so that it may not be wasted. Oats are frequently mixed with the last portions given them, prior to their being harnessed.

M. Dubuc was assured by both these proprietors, that there was a saving of one-fifth at least, by this method, and that besides the horses were in better condition, and endured more labour than those fed on common unprepared materials.

The Omnibus establishment of Paris, which employ five or six hundred horses, have just adopted this improved food.—*Southern Agriculturist.*

Extraordinary Oats.—In a field at Hornsea, near Hull, during the late harvest, an ear of oats, of the Tartarian sort, of most extraordinary dimensions, was gathered. The stem was within two inches of six feet in height, and in circumference, at one of the thickest joints, upwards of three quarters of an inch. The ear was fifteen inches in length, and contained 132 grains. This plant was gathered nearly at random, and many others were to be seen equally as fine.—*Hort. Reg.*

Large Sheep.—A prodigious Switzerland sheep, exhibited at Lincoln April Fair, caused an extraordinary sensation amongst the farmers, few of whom ever dreamed of seeing a sheep of the enormous weight of 402 lbs. standing five feet in height, and being seven feet in length. This sheep was yeaned on the mountains of Switzerland, and is now three years old. It has been publicly exhibited to the most distinguished naturalists in Europe, and at the Tuileries in Paris, before the royal family of France. It has produced annually 35lbs. of wool, and is carried in a convenient caravan to fairs, as an extraordinary curiosity.—*English paper.*

Preserving Potatoes.—An English paper says, "to preserve potatoes in a proper state for food for many years, it is only necessary to scald them, or subject them to a heated oven for a few minutes. By doing this they will never sprout, and the farinaceous substance will keep good for many years, provided the cortical part or skin be entire. They should be well dried after being scalded.

Swedish Turnips.—A writer in the English Farmer's Journal states, that "Swedish turnips have grown on the same soil, on the property of W. Whitehouse, Esq. of Studley, for seven successive years with undiminished fertility and weight of crop. This soil consisted principally of decomposing vegetable peaty matter and chalk."

Good Management.—A writer in the Sporting Magazine, concludes an account of his visit to the farm of Col. W. R. Johnson, in Virginia, with the following paragraph:—

"The colts of Sir Charles and of Medley, frisked and gamboled in the fields for our and their amusement; in short, every thing without seemed to prosper and flourish in its proper place, whilst, about the garden and house, under the direction of his better half, the household moved on as would a clock, whose works require winding but once in a life time. In fact, as one of our party said on leaving his farm—'Well! for training and good management, give me W. R. J. from a butter milk pig up to a race horse!'"

Prangos Hay Plant.—In the ninth number, recently published, of Wallich's *Rarer Asiatic Plants*, the pangros hay plant is figured and described; and such extraordinary agricultural properties are ascribed to it, that we take the earliest opportunity of noticing it to our readers.

Its properties as a food for agricultural animals, appear to be heating, producing fatness in a space of time singularly short, and also destructive to the Fasciola hepatica, or live fluke, which in Great Britain, after a wet autumn, destroys some thousands of sheep by the rot—a disease that, to the best of my [Mr. Moorcroft's] knowledge, has in its advanced stages, proved incurable. The last mentioned property of itself, if it be retained by the plant in Britain (and there appears no reason for suspecting that it will be lost), would render it especially valuable to our country. But this, taken along with its highly nutritious qualities, its vast yield, its easy culture, its great duration [a single planting will continue in healthy and profitable growth for forty years or more; hence the plant is a most durable perennial,] its capability of flourishing on lands of the most inferior quality, and wholly unadapted to tillage, imparts to it a general character of probable utility, unrivalled in the history of agricultural productions. When once [it is] in possession of the ground, for which the preparation is easy, it requires no subsequent ploughing, weeding, manuring, or other operation, save that of cutting and converting the foliage into hay. From various facts it is conceived not unreasonable to presume, that, by the cultivation of this plant, moors and wastes, hitherto uncultivated, and a source of disgrace to British agriculture, may be made to produce large quantities of winter fodder, and that the yield of highlands and of downs enjoying a considerable depth of soil may be trebled."

Britain does not yet contain living plants of *P. pabularia*, although it appears that seeds of it were sent here as early as 1814; whether when living plants be possessed, British winters may not be too severe for them, remains to be proved: but the writer above, speaks as if he had little or no doubt on this point; and, as the plant is from a temperate part of the East-Indies, (the neighbourhood of Imbal or Droz,) it may possibly be sufficiently hardy.—*Gard. Magazine.*

Feeding Swine.—Those who wish that these animals should have a sharp appetite, whilst they are fattening, must give them a couple of handfulls of dried oats once a day; taking care to have a supply for some days forward constantly on hand. For this purpose, a layer of oats must be placed in a pan; salt must then be strewed over it, and the whole moistened with a little water; taking care, however, not to fill the pan to the brim, as the moisture will swell the grain.—*Southern Agriculturist.*

HORTICULTURE.

TO THE EDITOR OF THE NEW-YORK FARMER.

Circulation of Sap.

Professor Lindley gave a course of lectures, the last summer, before the London Horticultural Society, illustrating the relation of Botany to Horticulture. Although there is no one to whose opinions I pay a higher deference, there is one fact, nevertheless, which the Professor has advanced, that I am not able to reconcile with my ideas of vegetable physiology, viz: that *the sap of plants sink in winter.* If the Professor means what the language of the abstract seems to imply, that the bole and branches of trees are destitute of sap during the cold of winter, he seems to have disproved his position, by another fact, which immediately follows, to wit, that *the sap appears first in motion at the extremity of the branch.*—This truth has been corroborated by many experiments. Branches of the vine, of the peach, &c. have been introduced in winter and spring into the warm temperature of a green-house, and have developed their leaves and blossoms, while the bole and roots remained frozen and dormant in the external atmosphere and earth. How can this happen if the sap, which is the nourishment of plants, had entirely forsaken these branches, and sunk into the earth? There are some animals which, like plants, remain torpid, and take no nourishment during the winter; and yet it would be preposterous to suppose that they were, during this time, destitute of blood. Without having examined the subject, I suspect that the blood of such animals is, like the sap of plants, destitute of the common animal heat; and that both the animal and vegetable become torpid for want of extraneous warmth, (for both show and evince vitality and life on the artificial application of this agent,) and that the genial warmth of spring merely awakens their dormant powers into action. When we consider the expansibility of water, and that its volume may be increased eighteen hundred times by the agency of heat, we may readily account for the great diminution of the volume of sap in plants in the autumnal and winter

months. This volume is further reduced by evaporation of its aqueous particles, after it ceases to rise in the autumn, and the leaves have lost the power of elaborating it. I believe the circulation in plants is impeded, and sometimes wholly arrested, by cold or the absence of heat; but cannot believe that the sap sinks in winter more than at any other season.

Let us look at the process of nature. "The sap appears first in motion," says Professor Lindley, "at the extremity or the branches." And why? because these extremities, being minute, are more sensitive to temperature than the large limbs and bole; and the vernal warmth, upon the known laws of caloric, first increases the volume of their fluids; so in the experiments of the green-house. The branches introduced have their vessels distended by the agency of heat, the sap is so propelled to the buds, for it cannot circulate down through the frozen wood, and the leaves and blossoms are expanded, ere the circulation has commenced at the outside of the house, and when, of course, no supply could come from the roots. From this view of the subject, I cannot agree with the Professor, that the sap of plants sinks into the root in autumn; that it becomes concentrated, and perhaps quiescent, by the effects of cold, is true; and it is no less true, that heat expands its volume, and causes it to circulate, in the spring. B.

TO THE EDITOR OF THE NEW-YORK FARMER.

Construction of Hot-beds.

Mr. Editor,—The hot-bed culture, when we enter into all its niceties, is attended with more trouble and expense than our framers generally are willing to incur, but it may be made eminently useful in bringing forward many plants much earlier than can be done in the open air; and when used as a seed-bed only, it is attended with but little expense or trouble. I am therefore induced to give some direction for its preparation and management.

1st. The frame may be made of inch board, unplained, four foot square, six inches deep in front, and ten on the back side.

2nd. The sash should be made exactly to fit the frame, the two side pieces, the back and the slats in the middle, should be of inch and a half stuff, and the front of inch stuff; the outside pieces about three inches wide, the slat an inch and a half wide, and placed seven inches apart, so as to take in 7 by 9 glass, no cross pieces, as these would impede the rains and prevent their running off freely; the glass should be laid in grooves, lapping at the lower edge, like shingles, and be puttied like a window sash.

3rd. Take from the dunghill, promiscuously, litter and a sufficient stable dung to form a bed about four feet eight inches square, and two feet high; this dung should be put in a heap, somewhat like a haycock, and lay two or four days near the place you intend to make your hot-bed. About the 20th of March, set your stakes two feet above ground, four feet eight inches square; then begin to lay on your dung and litter, mixing them well, and occasionally beating them down, so as to make it firm and level as may be; carry it to the top of the stakes, at the corners that is two feet high, and immediately put on your frame and cover it with the sash; in about two days the heat will come on, and the sash may be taken off and about three inches of dirt put in the frame and the sash immediately replaced. The sash should be raised on the back part to let off the hot steam; in three or four days the earth in the frame will be warm and dry enough to receive the seed, when it should be levelled and sown. The sash should be kept raised on warm days about two or three inches on the back side. In this frame may be sown Battersea and early York cabbage, Cayenne peppers, melons, cucumbers, Lima beans, lettuce, or any other vegetable you wish to bring forward early. These plants may be removed into the open air about the first of May; they will want water once or twice a week, the water should be kept in bottles in the hot-beds for twenty-four hours before it is used. Two beds of this kind may be made if you wish to go into the culture of the sweet potatoe, the only difference is in the frame, which, instead of being six and ten inches deep, should be ten and fourteen in such a frame; plant your sweet potatoes about two inches apart. About the first of May the vines will have nearly filled the frame, you may then throw up some hills in the open ground about a foot high, three feet apart, in the row, and the rows four feet apart, cut the vines out of the frame about three inches from the ground, divide the vines into pieces of twelve inches each, in each of the hills plant four of these pieces of vine, leaving the leaves above ground, and covering the stem from one to two inches deep; they willl soon take root, and by November following will fill the ground literally to overflowing with large potatoes. To keep these potatoes, scatter them among your Irish potatoes, in the proportion of two to ten bushels, and treat them exactly as you would Irish potatoes and they will keep as well and as long, but if suffered to come in contact with one another, or if kept too warm and close, they will certainly spoil. There are many varieties of the sweet potatoe, the yam and brimstone are the best.—The red ones are the earliest and poorest; I believe this variety may be cultivated in the open air, to do this they should be put in the ground the twentieth of April; they will not make their appearance above ground until about the middle of May, if frost occurs after this they may be defended by a little swingle tow, placed over the hills, on cold nights. The sweet potatoes should be taken from the hot-bed and planted, two in a hill, after the vines are cut and planted as above directed; the sash and frame may then be removed and put away until the March following, the dung spread or removed, and the ground dug and planted as if no hot-bed had been there. Yours, &c.

R. A. WILLIAMS.

Middlesex, August 19, 1832.

On Pruning Forest Trees.

From "*Essays on Vegetable Physiology,*" preparing for the press. By J. MAIN, A. L. S.

The pruner should be a good vegetable physiologist; for unless he has an intimate knowledge of the components of the plant, and their tendencies and functions in the system, his operations will always be performed in the twilight of uncertainty.

If we except the failure of the lowest branches of trees, there are few indications in nature showing the necessity of pruning. In natural forests, trees generally grow closely together; of course, their lower branches, being deprived of air and light, quickly perish; but when, by accident, they stand singly, the

lower branches are as permanent as those of the top, nay, even more so; and, moreover, they appear to be as necessary a part of the system. When, however, trees are taken under the care of man, they are subjected to control, and are trained to answer the purposes for which they are cultivated, whether that be for the timber they supply, the shelter and ornament they afford, or for the fruit or flowers which they yield. For these different objects trees undergo various manipulations of the pruner, which may be considered under different heads.

Forest Tree Pruning.—Forest trees are regarded either as objects of ornament or of profit. Ornamental trees require no assistance from the pruner. Natural forms cannot be improved by art, even when directed by the most refined taste. It is only in woodlands, raised or maintained as sources of profit, that the skill and exertions of the forest pruner are available. In such cases the special object is to obtain the greatest quantity of marketable timber. With this view the pruner endeavours to form stately, straight, and clean-grained boles, standing as closely together as is consistent with allowing every tree a sufficient share of light and air. The interdistances, and the desired form and length of bole, can only be obtained by giving attention to the trees in the early stages of their growth. To have timber of the finest grain or quality, no lateral branches that grow within the convenient reach of the pruner should be allowed to arrive at any considerable size; such branches act as rivals of the principal stem, and, if they remain to act injuriously before they are cut off, the wound thereby made is so large, that a defect in the timber is the certain consequence. The soundness of timber is not deteriorated by pruning, provided the wounds made in the execution be no greater than will be healed during the following summer. A scar made by the axe, bill, or chisel, if exposed longer than twelve months, will always remain a flaw; for, though it may be afterwards covered smoothly over by the new collapsing wood, it is impossible that any perfect union can take place between a surface of timber which has been exposed to the air for several months, and that which is subsequently formed over it.

Forest pruning is generally performed in winter; all wood word (except oak felling and peeling) is done in that season, chiefly because the leaves are off, and the growth has stopped. It is necessary to observe, however, that pruning performed in the beginning of summer, would be a better practice for the good of the trees. The reason is, because wounds made in winter do not begin to heal till after the summer growth takes place. That principle of the tree which is alone capable of closing a wound is dormant in winter, and the wound made in that season is too long unprotected; whereas, if branches are cut off when the vital principle is every hour extending itself, the incision is sooner closed, and, if not very large, it is completely covered before the growth ceases in the autumn. It should be a rule with the pruner never to make a wound that cannot be healed in the course of six months: but he can only attend to this by a timely application of the knife or chisel. A handsaw should never be used in pruning forest trees; because, if the irregular branch be so large as to require this tool, it had better remain where it is; and because, though it may injure the columnar form of the bole externally, and the regularity of the grain internally, the place where it joins the main body will always be found sound, which it would not be if cut off. Very tall handsome boles may be formed by the assistance of long ladders, handsaws, and jack-planes; but, though these large and carefully polished scars will be in a few years covered with healthy wood and bark, the marks of the tools will always remain a defect in the timber when it comes to the saw-pit.

These circumstances show decidedly the necessity of early pruning, as well to secure quality, as desirable forms of timber; for though all trees have a specific character of growth, with a more or less branched head, which they naturally assume when at liberty so to do, yet they submit to the hand of skill; and many trees of bush-headed character may be trained into a light aspiring shape, and well proportioned length of bole.

To take care that every tree has a principal leader, is a material object of early culture, and to maintain its superiority in after growth, a chief point to be attended to. All laterals that show a rivalry, so as to divide or deform the axis, should be displaced. Very small branches, or spray, need not be taken from the stem: whether they live or die, they cannot deteriorate the timber.

Forest tree pruning should be done gradually, and continued till the business becomes inconvenient, or too expensive; and, if judiciously done during the first ten or fifteen years, sufficiently fine forms will have been given, and proper length of bole secured. A great deal has been written relative to the propriety of reducing the head of a tree, as a means of increasing the bulk of the trunk. The question lies in a nut-shell: the larger the head, the larger must the trunk be also. The diameter of the latter is increased by the number of branches which are, or *have been*, produced by the former. In proportion as the roots are increased and extended, in like proportion are the stem and head. Severe mutilation of the head paralyses the energies of the roots, and *vice versa*. Reducing the number of branches, to give magnitude to the stem, is ridiculous. Regulating the growth of the branches, by stopping or cutting out such as are over luxuriant, gives supremacy and direction to the leader, but no addition to the stem or any other part. Every individual twig of the head is a part of the stem, and the former could not be developed without the assistance of the latter; which, while it conveys support, is itself enlarged by this very function. In fact, every member of a tree depends on, and, in its turn, lends assistance to, every other, when all are in perfect health. The only exception to this is an accidental luxuriance, sometimes exhibited by a single branch, and a certain division of the root, which progress together for several years before the rest of the tree. For such irregularity, however, no good reason can be assigned.

The foregoing remarks are applicable to deciduous trees only: on them if the forester bestow timely attention for a few years, by properly directing the juvenile vigour, he will seldom fail in raising valuable timber.

As the different kinds of forest trees are used for various purposes, the forester endeavours to supply the various demand. It is wrong that any advantage derivable from woodlands should depend on, or be

left to, chance. Oak of the straightest and cleanest grain is required for planking, beams, posts, &c.; but, besides this description of oak, in the dock-yards, cross-grained butts and knee timbers are in request, and consequently valuable. The former quality of oak, beech, and other kinds of forest timber, is obtained in the shortest time by rather close planting, early and careful pruning, and timely thinning, if necessary; the latter, by open planting, and partial pruning, i. e. not by aiming at a tall smooth bole, but by leaving the branches in sets of three or four (as it may happen), diverging from one place, and clearing the trunk of all immediate branches and spray between these sets. This style of pruning, though it has perhaps been never or but rarely executed, is, nevertheless, quite practicable: it is only pruning the oak, so as to make the disposition of its branches resemble those of a fir tree, but with greater distances between the tiers. But in all ordinary cases, if a sufficient length of bole be gained, the branched head may be depended on to furnish knee timbers. Pine and fir timber, for the use of builders and mast-makers, cannot be too free from knots, and it is impossible to have it so, unless planted and trained up as closely as possible. When so standing, no lower branches can live to distort the longitudinal structure of the axis. The centre of such stems, when cut up for use, only shows the diminutive bases of the first laterals; but every concentric layer of wood imposed after these first branches decay is uniform in longitudinal arrangement, and is uninterrupted by knots. A single fir tree requires a large space, and produces the worst timber; its first branches continue to enlarge and extend themselves, sweeping the ground as long as the trunk continues to rise; and though the latter arrives at a great size, its quality is of the most inferior description. In fact, fine-grained deal cannot be produced, unless the trees are planted, or chance to stand, as those in Norway, from which battens and ladder poles are cut for exportation, so closely together as to prevent all extension of branches. All the pine and fir tribe intended for profit should be planted to grow up, and be all cut down together, like a crop of corn. They do not admit of being partially drawn. They may be called, on this account, social trees, thriving best in congregations; for, so soon as the unity of the assemblage is broken, the exposed trees, losing their wonted protection, not only cease to thrive, but often die. Firs planted for ornament should stand at considerable distances, otherwise they never show the grandeur of their forms. The pruner must not touch them; his interference only tends to make them the most ugly objects in the vegetable kingdom. Planted as nurses in young plantations of deciduous trees, they are easily kept within due bounds, by a very simple method of pruning, practiced by Mr. Billington; viz., by pinching off, from time to time, the leading buds of the branches. This induces a spray-covered rather than a naked stem, and prevents the encroachment of the branches on the neighbouring trees, without destroying their own character and usefulness as nurses. By the same means, fir trees may be formed into impervious screens, or sheltering hedgelike boundaries, highly useful in many cases of rural improvement.

Ash timber is produced of superior quality, by being planted and trained up in close order; its toughness, and its cleanness of grain make it a desirable material for the coachmaker. Straight smooth sticks of ash 50 ft. in length, and from 8 in. to 12 in. square, are highly prized by all machine makers. Whether for timber or underwood, this tree should always be grown in plantations by itself, not only because of its greater rapidity of growth, but because it is a most noxious tree in hedgerows, or when standing singly in cornfields or meadows.

Oaks and elms are best suited for hedgerows. It is incredible how much elm timber can be raised in hedgerow order; and as the superiors are cut down a constant succession of young stems keeps rising from the old roots. No tree bears pruning so well as the elm. So severely is this performed in Middlesex and elsewhere, that, in many cases, a very small branch only is left at the top every time the tree is shredded. This property, of being unhurt by wholesale pruning, is owing to the remarkable vitality of the tree, which, being in every part studded with latent buds, throws out a numerous spray over all the stem. This, though unequal to increase the diameter of the trunk as a large branched head would do in the same time, yet gives the timber a gnarled character, particularly useful for the naves and fellies of carriage wheels, and other purposes where liability to split would be a defect.

In countries where fuel is scarce or dear, hedgerow trees are pollarded, and periodically lopped for domestic purposes, and for fencing stuff. Oak, elm, and ash are chosen for this barbarous purpose. The boles are preserved, as being the property of the landlord, while the loppings are considered that of the tenant. The trunks soon become hollow, and, of course, useless as timber. Willow pollards are extensively planted in low meadows, for the purpose of growing poles, stakes and headers for fencing. Willow holts, for supplying basket-makers' rods, are generally cut every year. Under this management, it is observable that every new crop of shoots is perfected by a new growth of fibrous roots. The centre of a willow pollard and that of a stool soon decay; and, in the rotten mass roots from the superior buds are seen to strike and luxuriate. The spectacle of a hollow willow tree being partly filled with roots, which from time to time had descended from the shoots of the head, gave the late Dr. Darwin, is is probable, the first idea of the wood of the stem being formed by descending radicals from the buds. But this example of the willow is no corroboration of the doctor's idea, when duly considered. The shoots of the willow, like those of all other trees, it is perfectly true, are prolonged by the assistance of radicals simultaneously produced. The doctor's idea was, that these two members are immediately connected, and that the latter are actually thrown out by the former, as in the case of a single eye of a grape-vine struck as a cutting. But that acute philosopher forgot that in the case of a pollard willow. or, indeed, any other tree, there exists an intermediate vital member which connects the extremities, and which is constitutionally calculated to allow intercommunication between them, without any portion of the shoot descending to the root, or any part of the latter, except fluids, ascending to the former, The intermediate channel is the seat of vitality, formed of cellular matter and a vascular apparatus, which, while it conducts, is itself

increased by the impulse and qualities of the rising current.

An argument in support of heading down young, and judiciously pruning old, deciduous trees, may be drawn from the natural history of many sorts of willows. They are not constituted to be permanent. So far from their bulk, number of branches, and quantity of foliage being incentives to increased vegetative power, an exactly contrary effect is the consequence. As they increase in size, the more feeble is their growth, till at last all vitality ceases; whereas, were they repeatedly cut in, new power would be imparted, by calling forth latent principles of life, and their existence would be prolonged to an indefinite length of time. The common furze (*Ulex europæá*) requires to be frequently cut, or eaten down, to keep it alive. The alder tree is comparatively short-lived; but may be reproduced successively, for ages, from the same stool.

The preceding remarks show that it is quite practicable to obtain a fair length of sound bole, say, on an average, of 20 ft. or 25 ft., without much sacrifice of time or money, and without fear of checking the growth by pruning. All branches which appear contending with the leader, and threaten to divide or divert it from its perpendicular course, should be taken off close to the bole, and before they are more than about *one inch in diameter*. This being attended to, no wounds will be made but what will be nearly healed over before the growth ceases in the autumn.

The annexed figures represent the grain or structure of the wood, as it appears on a perpendicular section supposed to be cut through the pith and opposite branches of a pine or fir tree, to show the effects of pruning.

50 51

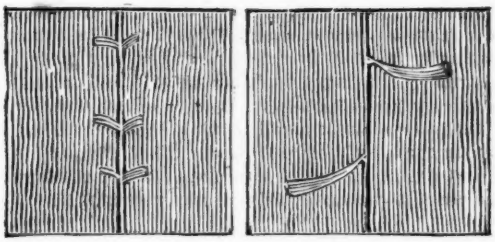


Fig. 50. Section of a tree of which the branches had died, or been cut off in the third year progressively.

Fig. 51. Section of a stem of sixteen years' growth, showing the remains of branches pruned in the tenth and twelfth years.

52 53

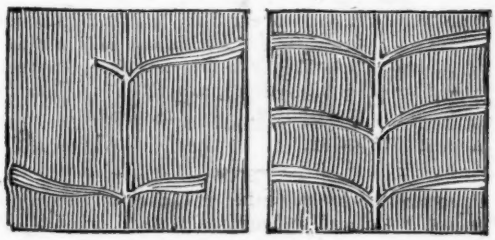


Fig. 52. Section, showing the effects of irregular pruning at different times.

Fig. 53. Section of a stem which has never been pruned.

It may be observed of pine timber in general, that it is less liable to be deteriorated by dead stumps of branches than the timber of deciduous trees; the resinous quality of the sap prevents decay, and, being concentrated in the closer texture of the knots, renders them even harder than the other parts of the wood. But the sap of oak, ash, elm, and most other forest trees, has no such preservative qualities; a rotten stump of a branch will often cause the destruction of the finest trunk. It may be added, in conclusion, that cutting close to the bole, provided it be done in time, is the only way to obtain clean-grained timber, as the above figures show. Stopping or cutting off the branches at some distance from the stem, deforms the tree; and though it may not not affect the soundness of the timber, it certainly deteriorates its quality for many purposes of the builder.

TO THE EDITOR OF THE NEW-YORK FARMER.

Rural Embellishments.

Sir,—In this age of improvement, perhaps nothing is advancing more rapidly, though to many imperceptibly, than the science of Horticulture. Our native forests are fast disappearing, the luscious apple and the melting peach now occupy the places once tenanted by worthless crabs and thorns, and the floral and pomonal treasures of the four continents bloom and flourish in many a spot, which had long been overshadowed by the ancient oak and elm.

The eye of an observing person is constantly reminding him of the rapid increase of costly and beautiful mansions, the abode of the wealthy farmer or the retreat of the retired citizen; and a few remarks on the rural embellishment of these are my principal reasons for troubling you with this communication. That branch of horticulture called landscape gardening is, as yet, completely in its infancy among us; in fact, many, far too many of our landed proprietors, who are actively engaged in giving a character as to appearance of their estates, have but a feeble knowledge of the existence, much less the practice of such an art. The axe has been so effectually used, that the appearance of many of our residences, far from the woodiness of a forest, too frequently exhibits the other extreme, and we begin to be as actively engaged in planting as our ancestors were in exterminating. Ornamental trees, as well as the more useful, are now sought after and planted with avidity by all who have the least pretensions to taste, or profess the slightest enjoyment of the beauties of nature.

"A tree in itself," an eminent writer observes, "is the noblest object of inanimate nature; it combines every species of beauty from its sublime effect as a whole to the individual beauty of its leaves and exhibits that uniformity and infinite variety which constitute the essence of relative beauty."

If a simple tree is so much the object of our admiration surely, the arrangement of such objects will have vast influence on our country scenery, and should command more attention than it has hitherto received from landed proprietors generally.

One of the most prominent faults to be observed, accompanying our more newly erected edifices, is that of planting a uniform row or cluster of trees immediately before the front of the mansion, which has the effect of obscuring, except to a very near observer,

all that beauty which cost the architect and builder so much pains and expense to produce. This has evidently, in a great measure, sprung from the desire to avoid the extreme barrenness which, from the cause before mentioned, was found where the house was erected. Even on the banks of the Hudson, where the attraction of the scenery has allured many to fix their residences, a casual observer cannot but remark how many of the buildings are burried "each in his little forest," which in a few years will, by the luxuriance of its growth, almost hide, at least from the rooms of the house, which should be the principal place in point of prospect, all that beauty which the owner was perhaps so anxious to secure in choice of a location. Independently of the picturesque beauty, which is entirely spoiled by such an arrangement, the individual effect of the house, which should be the main object in the scene, is lost. Any person of reflection cannot but know that the appearance of the building is better when seen at some distance as well as immediately at its base. The reason generally given (if any at all is given,) is that of having a cool shelter from our summer sun. If this were unattainable without such a particular disposition of the trees, it might, perhaps, be a sufficient excuse. In our endeavors to improve the appearance of an estate, convenience so far from being lost sight of, should be one of the most prominent features. But shade may be produced without either obscuring the building or marring the landscape; groups of trees should be planted as thickly as requisite on the three sides of the house, excepting the front, and let a few approach near enough on the sides to shade the front, at any time of the day, which they will, if properly disposed, and the business so far as regards shade is completed. A small tree of light foliage, or two, if the building be large, may be admitted very near and almost immediately before the house, and will, if judiciously placed, add much to its beauty; but on no account should a dense heavy row of foliage be placed directly before the mansion. More breadth of lawn than is generally seen should be also left around, and particularly before the house. It gives an air of independence and grandeur to the scene, very much in contrast with the little grass 'door yards' which are now so common in the country, (from imitation I suppose,) but which should never be permitted to appear out of town.

Many of our proprietors have unfortunately no idea of any other manner of planting than that of straight lines, while perhaps no country is better adapted to the more picturesque method of grouping than our own: we are not confined to any single disposition of surface, but have an endless variety of the hill and dale, water and wood, which are such great desideratums in landscape gardening.

Another common fault is that of placing the residence too near the public road. It should be located at a greater or less distance from it, in proportion to the extent of the lands of the owner, and the private road, or approach, should be an object of considerable taste in arrangement, and should give the stranger some idea of the extent and variety of the estate, if possible. The common method is to plant two uniform straight rows of trees directly from the road to the house, and I have more than once known instances of the proprietor putting himself to considerable cost and trouble to level the ground for such a road in places where an easy winding approach might b beautifully and readily made at much less expense. The trees, instead of straight lines, should be disposed in groups in such a manner as to make the turns in the road appear natural, and in conformity with the country around.

There are generally, and in the majority of locations in this country, always forests of different sizes and of the natural growth, standing near and about the sites selected for building country houses. In the common method, or that of straight line planting, these are most frequently in the way, and, of course, fall a victim to the axe, while in the picturesque method they may nearly always be left standing; will often, if the arrangement is judicious, have a pleasing and beautiful effect, beside the advantage of being full grown, which, perhaps, thirty or even fifty years growth of young and newly planted trees would not equal. In short, the many advantages of the picturesque style, and its superiority in point of effect will, I have no doubt, make it the most common and popular one here in a very few years. Yours, &c.

X. Y. Z.

Newburgh, Sept. 12, 1832.

TO THE EDITOR OF THE NEW-YORK FARMER.

Rhubarb or Pie-plant.

The consumption of this newly introduced culinary plant, in the British metropolis, may be judged of from the following, extracted from the Gardener's Magazine for June:—"Rhubarb, which has for some years past been cultivated, is still a subject of increasing interest, and more extensively in demand than ever; on the fifth of May, no less than eight entire waggon loads, packed in bulk, with an equal quantity in smaller proportions, were brought in and sold in this market (Covent Garden) alone. One cultivator, Mr. Myatt, of New Cross, Deptford, had three waggon loads; he has, I believe, nearly twenty acres in culture." This plant contains an acid as fine as the gooseberry, for pies and tarts; a square rod of ground will supply a family; and it may be used till midsummer, or later. By two hours labor, I have been able to cut it, in high perfection, the last of March. The plant is perennial, and requires a rich soil.

B.

FOR THE NEW-YORK FARMER.

Worm Holes.

Mr. Fleet—In the Farmer for July, I notice a communication signed C. I think his remarks on the subject of worm holes in the earth, erroneous.—Vegetables draw their principal support from the atmosphere, and not from the earth. On digging this summer for a cistern, the earth for two feet appeared *perfectly* dry, yet vegetables continued to grow and thrive. It appears obvious to me, therefore, that their principal supplies of moisture, as well as food, are derived from the atmosphere. Yours, &c.,

August 17th, 1832. Agricola.

Planting.—Among other instances of successful planting, "Colonel Johnes, of Hafod, was offered £100,000, for woods he had planted for his amusement." There was wisdom in the thrifty advice of the Scot to his son,—"Be aye sticking in a bit tree; it grows while you sleep!"—*Hort. Reg.*

Sultana Grapes.—We have to acknowledge the receipt of a couple of bunches of the Sultana grape from Dr. Monkur of this city. They are superior to any Sultanas' we ever saw, being perfectly ripe, and free from the slightest appearance of rot. The bunches weigh a pound each, within a few grains; the berries are almost transparent, *free from seeds*, and of delicious flavour. It is pretty generally known that it is very difficult to make the Sultana mature its fruit in this country. Indeed, while we have been familiar with the vines of this variety for several years, we never before saw the fruit in perfection. We are greatly obliged to Dr. Monkur, for affording us an opportunity of examining this delicious grape. The grapes can be seen at the Farmer Office.—*Am Farmer.*

Melons.—The Island Malomacca, which is one of the seven Isles lying in the front of Venice, is justly styled the "Garden of Venice;" its Melons are in high repute, and seldom find their way beyond the tables of the affluent. We instance them, however, on account of a singular feature which marks their advent to maturity. This takes place, almost without exception, between eleven and twelve at noon, and is announced by an emission of a peculiarly balsamic odour, of which no trace previously existed. The fruit must be instantly gathered, and removed to some cool spot; otherwise it loses its taste and perfume in a few hours.—*Hort. Reg.*

To Retard the Flowering of Roses.—The nobility and gentry who remain from their country seats till late in the summer, are generally prevented from seeing this class of flowering shrubs, in perfection, but the following practice causing them to blow three or four weeks later than when grown in the usual manner, well merits attention from those persons who are desirous of having roses to bloom as late as August and September.

The border in which the shrubs are planted, is manured with well-rotted cow-dung, about the first week in February. The shrubs are not pruned during the autumn or the early part of the winter, but remain untouched till the buds have pushed, some of them half an inch long; the shoots are then shortened below where the buds have pushed. The shortening the shoots so late in the spring, does not in the least weaken the shrubs, they blosson as vigourously and as freely as in the usual mode of treatment.

When desirable to have the blooming season prolonged, a portion of the roses cut, as is here described, while the remainder are treated in the usual way, will produce the desired end. J. Hayward.—*Hort. Register.*

Hollyhocks.—It has been discovered that the Hollyhock, (*Althæa rosea,*) is an excellent substitute for flax. Several individuals have embarked in the manufacture of it, and at present, it holds out every prospect of fully answering their highest expectations. —*Ibid.*

State of Agriculture—Alabama.—A correspondent at Big Swamp, Lowndes county, Alabama, gives us the following hints as to the state of agriculture in that part of Alabama:—

"Crops of corn are very abundant; the prospect of cotton in this section of the state was never more flattering. The planters have got much in the spirit of raising wheat; but the severe winter, late seeding, and careless and slovenly manner of putting in, have cultivated the sugar cane for several years, but in a very small way; one in this county made a clear profit of $100 per acre. There is scarcely a farmer that does not plant the whole of his cornfields with *cow-peas*, which yield very abundantly, and after gathering the corn, and peas enough for winter use, they put their stock on them, and their hogs become very fat in a short time. Every one cultivates the sweet potato, from ten to three thousand bushels anuually. The community here are a very industrious people, but most of them hold to ancient prejudices with a tenacity that is truly astonishing."—*American Farm.*

Preserving Fruit.—In Japan, fruit is preserved by dipping it in yeast; the fruit, if very large, is cut in slices, if not, it is dipped whole into the yeast. It derives some taste from the yeast, but fruit preserved by this method, will keep a year or longer. The same method prevails also in China.—*Thunberg's Travels.*

Preventing the Sprouting or Germinating of Store Onions during the Winter and Spring. —"As the season has now arrived in which most gardeners have already taken up their store onions, or are about to do so, allow me to suggest a plan for preventing that sprouting or germinating principle which so often renders them inferior even at an early period, and almost invariably useless at a latter one, as an ingredient in our cookery.

As, however, it is not a plan of my own suggesting, but was mentioned to me by an old lady who had seen it practised in Holland, it is possible it may be known to many of your readers; though, as far my own experience extends, it is practised by none.

It is simply applying a heated iron for a few seconds to the nozzle of the onion whence the roots protrude; and though I am sorry to say I have no onions this year on which to try the experiment, they having been swept from me by some petty depredator, still I can testify from my own previous experience that it is an efficient mode of preserving them."—*Gar. Mag.*

Mushrooms.—To ascertain whether what appear to be Mushrooms, are so or not, a little salt should be sprinkled on the inner or spongy part. If in a short time after, they turn yellow, they are a poisonous kind of fungus; but if black, they must be considered genuine Mushrooms. They should never be eaten without this test, as the best judges may be occasionally deceived.—*Ib.*

Bread from Turnips.—Let the turnips first be peeled, and boiled in water till soft and tender; then, strongly pressing out the juice, mix them together, and, when dry (beaten or pounded very fine,) with their weight of wheat meal, season it as you do other bread, and knead it up; then, letting the dough remain a little to ferment, fashion the paste into loaves, and bake it like common bread. Some roast turnips in a paper under embers, and eat them with sugar and butter.—*Evelyn's Misc. Writings, p.* 756.

RURAL ECONOMY.

[The following interesting communication is from Dr. Perrine, United States Consul for Campeachy. We hope he will continue to favor us with the productions of his pen. The public is much indebted to Dr. P. for his exertions to introduce foreign plants into our country. His example is worthy of imitation by those citizens residing or travelling in other countries.—*Ed.*]

TO THE EDITOR OF THE NEW-YORK FARMER.

Rearing Poultry in Mexico.

Sir,—I cannot embark for Campeachy without relieving myself by telling you not a cock and bull, but a cock and chicken story, which may be of service to those farmers who supply our markets with poultry.

The fondness of Spaniards for eggs and chickens appears to be inherited to the full extent by their American descendants, as at every Indian hut which I have stopped at in Mexico, I could get one or the other in default of every thing else in the eating line. It is true they are not very scrupulous about the number of feathers which covers the *pollito*, nor of the days it has been free from the shell, but then you know you can eat the more of them, and pay accordingly. But to return to my story. During the rainy season, the rivers of the state of Tabasco overflow the banks, and the little eminences become so many temporary islands, to which all terrestrial animals retreat for shelter. On these little mounds, too, the inhabitants place their huts, and it is fine sport to go hunting in a canoe from one islet to another all over the country. Monkeys, parrots, peccaries, snakes, in short, all animals of a tropical climate, may be found in the same congregation.

One afternoon in the month of October, 1828, in company with the Vice-Governor of the State, I entered one of those huts aforesaid, to take some refreshment and rest, when I observed before the door a large cock with three or four dozen of chickens around him, engaged in all the occupations usually appertaining to the hen, and apparently very proud of his office. Neither man, woman, child, pig, nor hen would he suffer to molest his little ones in the slightest degree, and he would occasionally cock his eye up toward the birds of prey in the air with a menacing gesture, as much as to say 'and you too had better keep at a respectful distance from my spurs.' The following was the account of this phenomenon given me by my companion, Col. Estrada.

"The cock is chosen to hatch the eggs, on account of his superior size, and to take care of the chickens, on account of his superior strength, while the hen is thus left free to continue filling other nests. To qualify him to take her place, he is first rendered intoxicated by swinging him over and over in a hammock, under which tobacco is burnt to keep him enveloped in the smoke. As soon as he becomes senseless and motionless, the feathers are stripped from his broad breast, and he is placed in a large nest with as many eggs in it as his body can cover, in the position taken by the hen herself while hatching. When he recovers from the stupor, the pressure of the warm eggs against his naked breast seems to occasion an agreeable sensation, which detains him on the nest the full period of incubation. Why he continues his care to the chickens after they escape from the shell, is best known to himself,—but you see the fact before you, and the practice of thus substituting the male for the female is general in this country."

Now, Mr. Editor, all I ask of you and your readers is to *try* before you *deny* the truth of this story.

September, 1832. Henry Perrine.

FOR THE NEW-YORK FARMER.

Strangles and Yellow Water.

Mr. Editor:—Some days ago, one of my neighbours called to visit me. He complained bitterly of having lost a horse a few weeks before, worth 60 or 80 dollars. The horse had the strangles, he said, and could swallow no hay nor other food; he had doctored assiduously, was told to give him some ley; and accordingly prepared some white ley, and gave the horse a pint, *very strong*. After which the horse could neither eat nor drink, and died in a few days. He was sure the disorder was incurable. I remarked that I thought it was the medicine that killed him, and not the disorder; that a pint of caustic ley would kill the soundest horse; that if he had taken one ounce of Ipecacuanha, poured into it two quarts of warm but not boiling water, and taken half a pint of this tea and put into a bucket of common water and given the horse to drink four times a day, a half a pint each time; then taken a quarter of an ounce of gum gamboge and half an ounce of aloes, added flour and water till it was of the consistence of dough, divided into four pills, and given night and morning, I had no doubt the horse would have got well. That I had known this disorder to be cured frequently by this treatment.

This man also complained of losing a fine horse, about a year ago, by yellow water (or jaundice), and was perfectly sure that this disorder was incurable.—I told him that I thought it was as curable as the strangles; that he ought to take the *New-York Farmer*, or some other agricultural paper, and not listen to every wind of doctrine in treating his horses and cattle.—He remarked that he could not afford it. On inquiry it appeared that the two horses were worth about 150 dollars, which would have supplied him with the paper for 40 or 50 years, and communicated much useful information, besides that I thought he was loosing a dollar to save a penny.

Most of our Farriers and books on Fairriery kill more than they cure; that a paper judiciously conducted was much more to be depended on, as its errors, if any, were open to correction. Yours,

August 17th, 1832. Carlo.

FOR THE NEW-YORK FARMER.

To make a Liquid Opodeldoc.

Mr. Editor—Take two quarts of whisky, rum, or brandy or any other proof spirits, put it in a kettle and warm it with coals, dissolve in it as much soft-soap as it will take up. When cold, put it into a bottle and add one ounce of camphor, half an ounce of volatile salts of ammonia, when these are dissolved, it is ready for use. This preparation is called Liquid-Opodeldoc, and in all swellings about horses and cattle is a safe and good application. Some gentle physic should be given at the same time. The opodeldoc will scatter the humours if recent, and the physic will clear them out of the system. Yours, &c.

Sept. 4, 1832. Carlo.

FOR THE NEW-YORK FARMER.

Maple Sugar.

Mr. Editor,—I send you an extract from the Military Monitor. If the statement of the writer is correct, I do not perceive why an acre of ground is not as profitably appropriated to a maple orchard as to most other agricultural purposes. He states that an acre will produce 450 pounds of sugar, calculating it at 6 cents per pound, the acre will amount to $27.—Supposing the pasture to pay for the interest of the price of the ground, the net produce will be equal to that obtained from wheat, by most farmers.

Lansingburgh.

"The successful experiments on making sugar from the cane, in the state of Georgia, has been a source of much exultation to the lovers of independence. It is surprising that some measures are not put in forwardness for making sugar in the middle and Northern States. The maple sugar is as sweet, as easily refined, and cheaper than that produced from the cane. I do not pretend to say that an acre of land will produce more of maple than it will of cane-sugar, but the quantity produced will require less labour, and will be attended with less expense in proportion to the quantity produced than that made from cane.

"An acre of land, if planted with 100 of maple trees, will produce, on an average, 450 pounds of sugar annually. The season for making maple sugar seldom continues longer than six weeks, and that at a season when little else can be done.

"The land will produce either grass or tillage nearly as well, and according to the opinion of some, better, than if not planted. The maple tree grows remarkably straight and tall, bearing few branches, and these spreading but a short distance. The tree sometimes appears with only a few branches at the top like a broom. It throws but little shade between the sun and the ground, which may, in part, account for the great fertility.

"A tree will produce, in less than 20 years after being planted, the frequent tapping of it tends to increase the annual produce for at least 30 years.

"It would not disappoint the calculations nor infringe on the general economy of the farmer, to plant a few trees for the supply of his family; and he would find an advantage in making sugar for market. A system of this kind would, in a few years, render the states, north of the Potomack, and west of the Allegany mountains, independent of a foreign supply of sugar.

"The nnmber of trees at present growing in this state, would, for several years, supply a sufficiency of sugar for the states, if properly attended to.

"A Legislative provision, to encourage the preservation and planting of maple trees, would secure to the states a truly great advantage—a blesing.

A Woodsman.

Cayuga County, N. Y.

To Restore Sour Wine.---Take dry walnuts, in the proportion of one to every gallon of wine, and burn them over a charcoal fire; when they are well lighted, throw them into the wine, and bung up; in forty-eight hours the acidity will have been corrected. —*Hort. Reg.*

Sardinia.—The number of sheep on the island is nearly a million; and of goats, half a million. Great use is made of the milk of both of these animals.—They have only about 13,000 cows on the whole island, which embraces a territory and population about equal to that of Maryland. If the families in Sardinia contain upon the average about five persons each, this would be only one cow to five families

Great quantities of cheese are made from the goat and sheep's milk of this island. Some of it is very fine: but much of it is steeped in brine, which is not very agreeable to an English taste. The amount of cheese made from these two species of animals, is estimated at 1,656,000 pounds a year, or about 20lbs. to each family.

Oil from Sunflower Seeds.—A paper printed in Scotland gives this mode of obtaining such oil.—A very delicate oil, much used in Russian cookery, is expressed from the seeds of the Sunflower, and is prepared by inclosing them in bags, and steeping them in warm water, after which the oil is expressed, this is actually as sweet as butter.

Horse-chesnuts.—The powder of horse-chesnuts being mixed with a third of flour, is found to make better paste than that made from flour only. (Mech. Mag. viii.) We are glad to observe that these nuts can be applied to some useful purpose, and hope country shoe-makers and book-binders will take the hint.—*Conductor of Gard. Mag.*

MISCELLANEOUS.

Works of Nature.

It is the glorious privilege of man, while other animals are confined within the limits which instinct has prescribed, to carry his observations beyond his own immediate wants, and to contemplate the universe at large: he extends his enquiries to all the objects which surround him; exercises his judgment, and informs his understanding, by ascertaining their nature, properties and uses. In the various branches of the mathematics, in the abstract speculations of metaphysics, or in searching the records of history, he is solely intent on the operations of his own mind, or the actions of himself and his fellow-creatures: but in the study of nature, he examines every object presented to his senses, and takes a general survey of the wide and interesting prospects of the creation. The earth he treads, the ocean he crosses, the air he breathes, the starry heavens on which he gazes, the mines and caverns he explores, all present to him abundant materials for his researches. And, when thus employed, he is engaged in a manner peculiarly suitable to his faculties, since he alone is capable of knowledge, he alone is distinguished by the power of admiration, and exalted by the faculty of reason. The terraqueous globe presents a most glorious and sublime prospect, equally worthy of the capacity of man to contemplate, and beautiful to his eye to behold. And the treasures of nature, which this prospect comprehends, are so rich and inexhaustible, that they may furnish employment for his greatest diligence, stimulated by the most ardent curiosity, and assisted by the most favourable opportunities. At the same time that she solicits him

to follow her not only into her open walks, but likewise to explore her secret recesses, she fails not to reward him with the purest gratifications of the mind, because at every step he takes, new instances of beauty, variety, and perfection, are unfolded to his view. The study of the works of nature is in itself capable of affording the most refined pleasure, and the most edifying instruction. All the objects with which we are surrounded, the smallest as well as the greatest, teach us some useful lesson. All of them speak a language directed to man, and to man alone. Their evident tendency to some determined end, marks the designs of a great Creator. The volume of creation contains the objects of arts, science, and philosophy, and is open to the inspection of all the inhabitants of the globe. Nature speaks by her works an universal language, the rudiments of which are peculiarly adapted to the inclination and capacity of the young, whose curiosity may be gratified and excited by turns; but more profound and extensive inquiries are suitable to the contemplations of persons of every age; and no subject can be more worthy of their attentive observation.

Whoever opens his eyes, and surveys the creation with the least attention, must perceive a beautiful variety of objects that present themselves to view, and seem to demand his notice. In summer, meadows enamelled with numberless plants and flowers, affording rich pasturage for cattle; fields waving with different kinds of grain for the use of man; woods, forests, plains, and mountains, differently adorned, and ponds, lakes, or winding rivers, varying the charming scene. In winter, the forests naked, nature as it were suspending her productive power; the air severe and piercing, the earth frozen, the waters rendered hard, and capable of bearing men, cattle and carriages; the falling of the fleecy snow, and all the circumstances attending this cold rigorous season; every particular deserves our consideration. and commands inquiry. Look we out at night, when darkness covers and conceals the beauties of our earthly globe, we shall find this temporary loss made up to us by those numberless and glorious stars that glitter in the magnificent canopy hanging over us; and if the moon arises, her mild and friendly rays enlighten the silent scene, and give a fainter day. In short, whatever the season of the year, whether cheerful spring, warm summer, rich autumn, or cold winter; whatever the hour of the day or night, things worthy our most serious notice are at hand; things which to know may truly be called learning, and in the study of which an intelligent being may always employ his leisure hours with pleasure.

Crystals in Living Vegetables.---Various naturalists have taken notice of the appearance of crystals in the internal parts of vegetable tissues, but nothing very explicit and certain has been stated respecting them. M. Turpin has discovered, in the cellular issue of an old trunk of the Cereus Peruvianus, in the Garden of Plants at Paris, where it had been growing one hundred and thirty years, an immense quantity of agglomeration of crystals of oxalate of lime. They are found in the cellular tissue of the pith and bark. They are white, and transparent, four-sided prisms, with pyramidial terminations, collected in radiant groups. —*Jameson's Journal—Arcana of Science.*

THE FARMER.

September 30, 1832.

Pruning.—On reference to our preceding pages of the present number, our readers will find an excellent article on pruning. Mr. Loudon considers it the most valuable that has ever appeared in his Magazine on the subject. The pruning of forest trees is almost entirely neglected in this country; and in relation to fruit trees, it is too generally practised without any reference to vegetable physiology, and in a most wanton and injurious manner. The golden rule that, no branches to be cut off which do not interfere with the leader, no wound thus or otherwise made, *to be larger than an inch in diameter*, and no pruning in autumn, is most outrageously violated. We do not hesitate to say, that the *injudicious* use of the pruning-knife has done more injury to fruit culture than all the evils arising from insects and diseases incident to our climate. In the latter part of August, we saw a first rate foreign gardener approach a peach tree in as flourishing condition as we could wish to see. The tree was 2 1-2 inches diameter; at the height of 2 1-2 feet, it formed into three branches—one on each side of the central or main stem. These two, although larger than the leader, he sawed close off, making two oval wounds of 5 or 6 inches in circumference and leaving a space between them, on one side of the tree, of only about *a quarter of an inch* for the sap to ascend, and on the other of about one and a half inches. In addition to these, he cut off smaller limbs from the leader. It will be perceived that the relative offices of the leaves and roots can not be freely performed, and that much of the elaborated as well as ascending sap will ooze out, and render the whole tree diseased. In less than 12 months this mutilated tree will, we are well persuaded, have the *yellows*. In a garden containing between 40 and 50 trees, we have observed the yellows are indicated just in proportion to the severity of the pruning. Those that have not been pruned at all, are wholly free from this disease, and in a most healthy growing state. Those trees which we have examined, and which have the yellows, are deficient in sap in their branches and extremities. To this deficiency of sap, is, in our view, to be attributed the shooting out of numerous small stems in an unnatural manner on the larger branches and limbs.

The yellows are attributed to insects. We have a box containing the insect, which a nurseryman has sent, as the one which causes the disease. We are in daily expectations of the communication which was to accompany it. We wish our correspondents would favor us with the results of their observation in respect to the effects of pruning in causing the yellows.

Silk Cocoons.—We have received from Miss Parmentier, of Brooklyn, two baskets of silk worm cocoons, for exhibition at the approaching Fair of the American Institute. They consist of two broods spun the present season Those of the second are much larger than the first, and what is of more importance, all are of a beautiful white color. We hope every lady in our country, who has given attention to the rearing of silk worms, will imitate Miss P., by exhibiting at the Fair, specimens of their cocoons, and, if convenient, accompanying them with statements of their mode of management. By so doing they will set a laudable example, and promote the welfare of their country. The following has been politely furnished by Miss Parmentier.

The silk worms of the first brood were hatched, May 9, 1832. They were fed on the Morus alba, or white Italian mulberry, Morus multicaulis, or Chinese Many-stalked Mulberry, Morus alba macrophylla, and other varieties. The litters were changed every second day. The result of this mode of feeding was that the worms were in excellent health, and that the cocoons were about two-thirds white, and the remaining straw coloured. The eggs which produced the worms of the second brood, were from cocoons selected from the first brood, without regard to colour ; care, however, having been taken to set aside those cocoons only, which were of approved form.

The worms of the second brood were hatched July 30th. These were fed exclusively on the Morus multicaulis. A proof of the excellence of this mulberry, is, that the silk worms of this brood which had received the same care as those of the first, completed the different stages of their existence in the short period of *twenty-six* days. The cocoons obtained from this brood were all of a perfect snow whiteness. If experience should prove that silk worms fed entirely on the Morus multicaulus, invariably produce white cocoons, it appears evident that this will add another invaluable advantage to those which this tree is already known to possess—it being perfectly hardy, always preferred by the worms to any other kind, having abundance of large leaves that require but a little time to gather them, and constantly putting forth branches, and leaves that always afford food suitable for the different ages of the insects.

Farmers' Work for October.—Those farmers who have not wood-houses should, if possible, immediately provide them. The practice of having wood-piles out of doors, and cutting the wood as it is daily wanted, is a very bad and unprofitable one. If a farmer wishes to eat fine hot buckwheat cakes, have his wife in a good humour, and derive pleasure in reading his newspapers, let him provide a covering for his wood, cut and dryed. Let him furnish himself with the most economical stove, and make his doors and windows perfectly tight.

Cut Hay.—Those who are in the vicinity of cities or large towns should sell their long straw, and give their horses cut hay with bran, Indian meal, or bruised oats. Straw will sell for as much as hay, if not for more, but is not as good for feed. Farmers may be assured that there is a great saving in cutting hay. With a less quantity of meal it is more highly relished than cut straw; with a little salt, only sufficient to make it palatable, given two or three times a week. most horses will thrive at a much less expense than feeding the hay loose and giving them oats. Their feed, however, should be occasionally changed for a short time.

Wheat and Rye.—It is a common complaint in the spring, that these important grains, particularly the former, have been winter-killed. This we suppose is generally done by alternate freezing and thawing, throwing the roots on the uneven surfaces out of the ground. Would it not be advisable for those farmers who have not rolled their grains, to provide a roller, and, before winter sets in, to go over their wheat grounds? Most good farmers give decided testimony in favour of the roller. Let every incredulous farmer try a portion of his grounds.

Fruit.—Those who have good varieties of apples and pears will find themselves abundantly paid by gathering them with great care, and sending them to market in fine order. If a price sufficient to compensate cannot be obtained, let them be carefully kept until better times. To preserve apples they should be dry and kept in sand free from moisture. Bran and sawdust are also good. Some sweat them in heaps and dry them before packing them away.

Stock.—If a farmer is convinced he has not a good stock of cattle, sheep or hogs, let him consider how he can dispose of what he has, and obtain others far better, not only without much sacrifice, but, if possible, by a pecuniary gain. By fatting all his poorest stock, and making extra exertions to add to his manure by carting into his yard that kind of earth, which will improve the consistency of his soil, he may find, in the early part of the winter, that his stock will sell for more than a sufficient to buy half the number of the very best breed, which will yield, in milk, wool, and meat, more than they formerly could obtain.

Accounts.—Examine your accounts with care. Strike a safe balance. If you have been a gainer, endeavor to see if the favourable circumstances will exist next year. Do not expend your gains on improvements of your buildings that will require several years of equal success to complete or pay for them; but rather put them out to interest, or expend them for manure or improved stock. If, on the other hand, your expenses have exceeded your income, call your wife, and, if expedient, your sons and daughters, and with them examine all the items of incomes and out-

goes, and make arrangements to increase the former and retrench the latter.

Hogs.—English authors say, that a mixture of oa meal and water, or any other meal, and left until it become sour will fatten rapidly ; but milk and pea meal make the finest pork in the world. If any farmers of this country find by experience that they have fatted their hogs at a too great expense, let them partially adopt something like the above plan next year.

Ploughing.—Some farmers highly recommend ploughing in the fall, in order to destroy the larvæ or eggs of insects, or the seeds of weeds ; others contend that it is the direct way to preserve them, by burying them deep and more out the reach of frost and birds This disagreement among practical farmers, arises, says a distinguised author, from an unacquaintance with the economy of insects. And this disagreement will continue until more scientific knowledge in natural history becomes common among farmers.

Gardeners' Work for October.—Every exertion should be made, all this month, to secure crops that are liable to injury by frost. Severe cold sets in some winters from twenty to sixty days earlier than in others. Last fall most gardeners in the vicinity of New-York, and also in other sections of the country, suffered very considerable loss by having their potatoes, turnips, and many other vegetables caught by a sudden and severe frost that rendered the ground as a rock throughout the winter. The losses thus occasioned, added to those of a very hard winter and very late spring, cut very seriously the income of many gardens. Succeeding these came on the disastrous effects of the Cholera. Thus for a whole year gardeners have had to contend with adverse circumstances arising from unusual events. As much as other classes of the community have suffered, their deprivations have not been in succession as those of gardeners. We hope the elements and the times will be more propitious.

Potatoes.—These are to be dug as early as possible ; fair weather is the most favourable ; should be put under ground, or in a dry and secure cellar, immediately on being dug. Some gardeners let them remain in the sun to dry; this practice is not approved. Carry them immediately into the cellar, while they are fresh. The dirt adhering to them is not injurious, but rather beneficial.

Pumpkins.—It is recommended that these and squashes should be dried in the sun before they are stored away. Some families cut them up in slices, and dry them in the sun or an oven.

Beets.—These are to be taken up and put safely under ground, or packed in sand in the cellar.

Cauliflower, Parsley, Lettuce, Cabbage plants, that were sound last month, must have frames provided for them, to guard against frost.

Turnips should be hoed early in the month, if they have not received this operation before.

Currant and Gooseberry bushes should be moderately pruned and new plantations made.

Raspberries may receive the same treatment, cutting out the old branches which produced fruit last summer.

Bulbous Roots.—Hardy flowering bulbs may be planted. Dahlias, and other tender tubers and bulbs, must be secured.

Celery should be hoed up in dry weather, after the dew has disappeared. If dirt sufficient cannot be obtained between the rows, let it be supplied from other places.

Asparagus seed may be sown this month, in good rich ground.

Endive should be tied up for blanching, if it has not been in the previous month.

Flowering Shrubs should be pruned a little, and new plantations made.

Green-house plants should be taken into the green-house, if they have not been already. Watering them once or twice a week with water, passed fresh through cow-dung, is beneficial to most plants.

Fruit Trees.—Begin to make preparations for transplanting hardy fruit and ornamental trees. Sow fruit and forest tree pits and seeds.

Grape Vines, that will not bear the winter, are to be laid on the ground and covered with straw or leaves, &c., or with the soil. The object is to conceal them from the sun rather than to protect them from the frost.

Mildew.—*Mr. Fleet*,—If you can inform me, through the medium of your valuable paper, how to prevent grapes and gooseberries from becoming rusty, you will confer a favor. H. B. Wisner.

Remarks.—As it respects grapes, we know nothing that is a certain preventive of mildew. Gardeners apply with a syringe, before the mildew commences, a mixture of lime and sulphur in water. Mr. H., of New-York, tried chloride of lime in the same way. It made them spotted. It was probably too strong. Mr. A. who has a garden just out of the city of New-York, has been successful with gooseberries under peach trees that gave but a thin or light shade, and where the bushes had a free circulation of air. A gentleman of Albany shakes the dew from them before the sun strikes them with much force.

Markets.—Hardly any fixed price can be given for vegetables. Peaches are selling in New-York at $1,50 to $4 per basket of three pecks. Isabella Grapes, 8 cts., and foreign 15 cts. per pound.

To Our Subscribers.

We have this day transferred the proprietorship of the New-York Farmer and Horticultural Repository, together with all the debts due the establishment, to Mr. D. K. Minor, publisher of the New-York American, and of the Rail Road Journal. The numerous facilities which Mr. Minor possesses for publishing the work, his known reputation for punctuality and correctness, the improvements he intends to make in the mechanical execution, and the increased quantity of matter which the numbers will contain, afford strong and satisfactory assurance that the New-York Farmer will commend itself to the patronage of the public generally, and especially to the lover of rural pursuits. We hope our friends will step forward with promptitude, and render that encouragement which will sustain him in his enlarged plan of operation.

We shall confine our labors, exclusively, to the editorial department; and, thus freed from the cares connected with the financial and publishing concerns, we hope to extend our researches, and to impart to the work more pith and interest.

All communications relating to the business affairs of the paper, should be directed to Mr. Minor; those having reference to the editorial department, should be addressed, as heretofore, to the subscriber.

S. FLEET.

New-York, October 26, 1832.

TO THE PATRONS OF

The New-York Farmer.

Having become the proprietor and publisher of the *New-York Farmer and Horticultural Repository*, the subscriber deems it proper to make a few observations upon its present or past condition, as well as upon its future prospects.

The former proprietor and editor of the Farmer, having had to encounter many difficulties, was not able always to execute it in such a manner as he desired, nor to issue it with that regularity and promptitude which its patrons had a right to expect, and therefore, apprehension that it would not succeed may have arisen in the minds of some of its former friends, and have induced them to relinquish it, who, under other circumstances, would still give it a cordial support.

With a full knowledge of these unfavorable circumstances, I have assumed its publication, with a firm determination to place it upon an equality in point of execution, punctuality, and usefulness, with any other work of the kind published in this country.

Mr. S. Fleet, the former editor and proprietor, will continue as the *Editor* of the Farmer; and the proprietor is induced to believe, that, with Mr. Fleet's experience, (being relieved, altogether, from the cares and perplexities of the business department,) and his extensive list of able, practical correspondents, together with his own situation, as editor and publisher of the *Rail-Road Journal*, and publisher of the *New-York American*, he will be able to make it worthy of the attention and patronage of those who desire a periodical of the kind; and he therefore with confidence offers it to the enlightened agricultural and horticultural citizens of the state of New-York in particular, and of other states in general, as a publication calculated to disseminate much valuable and interesting information, at a very cheap rate, and in a convenient form for preservation.

The current volume will be completed in its present form, with some improvements in paper and style; but the next volume, which will commence on the first of January, and the numbers appear on the *first of each following month*, will be enlarged—the columns lengthened, and increased to three on each page—thereby containing nearly double its present quantity of reading, and upon superior paper, with new type. It will be the commencement of a new series, under the title of the *New-York Farmer and American Gardeners' Magazine*.

It will contain, in addition to its former variety of interesting matter, two or three pages of valuable reading in each number, upon the subject of *Mc Adamized Roads—Steam Carriages* for common roads—*Rail Roads* and *Canals*, with illustrations on wood engravings. Also, a summary of the New-York Market—Sales of Cattle, Sheep, &c., for the preceding month—Sales of Real Estate and of Stocks—with a Table showing the Range of the Thermometer, Weather, &c., at Montreal, L. C., city of New-York, Charleston, S. C., Mobile, Ala., and other matters of interest.

Those subscribers now indebted for previous volumes of the Farmer, are respectfully requested to remit the amount by Mail to the *present* proprietor; to whom all communications relative to the *business department* of the paper, may be addressed. A memorandum will be sent in the next number to each subscriber, whose account appears to be in arrear, that there may be a fair understanding between them and the proprietor, who will leave no effort unmade to merit, not only a continuance of their present patronage, but also their best exertions to extend its circulation among their neighbors and acquaintances. D. K. MINOR.

New-York, October 26, 1832.

In consequence of the pendency of arrangements which have resulted in the present transfer, this number of the Farmer has been delayed a few days beyond its regular day of publication; we hope, however, to make amends for it by a *strict* observance, or anticipation of the day of publication hereafter.

NEW PUBLICATIONS.

Geological Text-Book,

For aiding the study of North American Geology: being a Systematic Arrangement of Facts, collected by the Author and his Pupils, under the Patronage of the Hon. Stephen Van Rensselaer. By AMOS EATON, A. M., *Senior Professor in Rensselaer Institute, and Member of most of the Learned Societies in America. Second edition, with additions.* Albany, Websters & Skinners; New-York, G. & C. & H. Carvill; Troy, William S. Parker. 1832.

Without entering into any disquisitions relative to the general merits of the work, or speaking of the importance of geological information to farmers, we shall confine ourselves to a brief notice of the doctrine advanced by Pro. EATON, that "vegetables receive their chief support from the atmosphere; and the whole of it, when they grow in clean, pure, unmanured earth." We consider this assertion to contain as much truth as though Pro. E. had stated that animals derive their principal nourishment from the atmosphere. All that is requisite for animals to obtain the benefits and nourishing qualities of the atmosphere, is to feed them plentifully with proper food, afford them suitable exercise, and keep them in a temperature congenial to their nature. Thus circumstanced, their lungs will decompose inhaled air, and incorporate its ingredients with their system. Similarly treated, plants will act upon the atmosphere, and derive a very considerable portion of their nutriment from the air. The assertion, however, that "vegetables receive their chief support from the atmosphere," is like that of him, who would attempt to prove that the mouth, the legs, or the brain, are of more importance than the arms, the lungs or the stomach. The truth is, that every part of the plant is so dependent on the others, that it is difficult to magnify one part or organ without unduly estimating the utility of the other. The leaves cannot perform their operations without they are supplied with sufficient sap through the agency of the roots. The great quantity of liquid which ascends from the roots, and which in the various processes of elaboration, by parting with some of its component parts and incorporating other substances with it, does in fact become the principal source of the increase of the plant. Because, carbon is considered to constitute the principal substance of ligneous plants, it is no more evidence that they derive it principally from the atmosphere, than that animals derive the nitrogen of their systems from air, exclusively or principally, rather than from the food entering the stomach. In the analysis of the ascending sap, we detect carbon as well as other substances besides water. There is no proof that this carbon is derived from air, when, as Professor Eaton directs, we apply substances containing carbon, to the roots in order to make them grow. Again, carbon, or rather the charcoal procured, does not constitute the chief portion of a green tree, and we believe the pyroligneous acid from long seasoned wood exceeds it in weight.

The application of plaster of Paris seems to be additional proof that the nutriment of plants is received principally at the roots rather than through the leaves, and that it is not derived from the air, but from the substances in the soil; for when the vegetable and animal matter in the soil is exhausted, the plaster ceases to be effective. If Professor Eaton can substitute for animal and vegetable matter, other substances that have such affinity for the components of the atmosphere, and for the gases floating in it, that the roots can be thus supplied, then his hypothetic assertions would be verified; but as long as he directs us to apply to the roots, the very substances that constitute the food of plants, we cannot conceive whence he derives his proof. It is known that water, heat, light, the sun, atmospheric air, earths and manures, are all, to most plants, equally necessary to secure their healthful growth, and their maturity. Water is undoubtedly received in far greater quantities than all the other substances which enter the roots and the pores of the leaves; and from the very small proportion of carbon in the air, and the known quantity that is given out by plants in the night, it cannot be supposed that the oxygen of the water is given out in a much greater proportion than the carbon received; consequently it would seem that the water and other substances applied to the roots, are the principal substances entering into combination with the plant, and that the leaves, by the aid of the sun and the atmosphere, rather elaborate and modify the substances already in the plant, than add very materially to the bulk.

We have not time nor space to pursue this interesting subject further at present. Had Professor E. told farmers that it was as important for the growth of plants that the leaves should be in as favorable a condition to be acted on by the sun and the atmosphere as it is to apply the proper manure to the roots, he would have been informing them of that of which many do not seem to be fully aware.

The following extract will be found to contain many useful suggestions, and we would particularly recommend it to the attentive perusal of farmers and gardeners.

"An error of importance had prevailed among geologists, on the subject of the origin of soils, until a classification of detritus was established. Cuvier's theory of the earth, did much towards the present improved state of that department of geological knowledge. But Schoolcraft suggested the first thought ever published, on a classification, which in accordance with the pre-

sent views of geologists on that subject; though his nomenclature was different.* Near the same time, Conybeare, Buckland, and others, gave a character to it, which will endure.

"It seems to be demonstrated, that ante-deluvial detritus (called the tertiary formation) is a deposit, as independent and distinct, as secondary rocks. It cannot be traced immediately to any adjoining rocks. Consequently its character cannot be explained by referring to other strata; unless we admit the general principle that all deposites, made after the deposition of the lower part of argillite, consist of fragments of the older rocks.

"The principle heretofore received then, that soils depend for their constituent characters on underlaying rocks, cannot be received any farther than as applied to *analluvion*. All other kinds of soil have characters as independent as transition or secondary rocks; and they may be classified now, with as much accuracy.

"*Fertility of Soils.*

"1. Fertility of merely earthly soils does not depend on their ultimate chemical elements. Pulverised emery, which is almost pure alumine, will have the same influence upon vegetation as pulverized quartz, which is nearly purely silex. Hence the reason that Davy, and other distinguished chemists, have disappointed agriculturists by their analyses; which were founded on such mistaken views.

"2. The perfection of earthly soils, without any reference to animal, vegetable, or other adventitious matter requires the following constituents in due proportion: 1. *Stones* and *pebbles* sufficient to keep the soil open and loose. 2. *Clay* sufficient to absorb and to hold water in a just proportion. 3. *Fine sand* in sufficient quantities to prevent the clay from baking into a compact mass, in time of drought. Also to prevent its retaining so much water in the winter season, as, by expansion during the freezing of the water, to draw the roots of vegetables from the earth—called the winter-killing process.

"To select a farm for purchasing, or to improve land by artificial means, without the application of manures, requires particular attention to these proportions.

"Vegetables receive their chief support from the atmosphere; and the whole of it, when they grow in clean, pure, unmanured earth. Neither dry sand nor baked clay will absorb the nutritious gases. Duly moistened earth absorbs carbonic acid, ammonia, and other nutritious gases, which are received from the soil by the fibrous rootlets, for the use of plants. Charcoal and other carbonaceous matters, absorb these gases with great avidity. Hence the great value of carbonaceous manures, as rotted straw, charcoal, &c. But a due proportion of moisture is essential to absorption in all cases. Hence the importance of an attention to soils in reference to the absorption and retention of water. Hence too the importance of frequently stirring and disturbing the dry surface of the soil in time of drought, by hoeing, ploughing, &c., in order to present a moist surface to the atmosphere; without which, nutritious gases cannot be absorbed.

"Carbonate of lime, sulphate of lime, and all the soluble salts, as well as putrifying vegetables and animals, should be considered as manures. They all act, either as absorbents, like charcoal; stimulants, like gypsum, muriate of lime, &c., or as furnishing nutritious matter by their decomposition, like fish, rotted straw, &c. Therefore the geological agriculturist studies chiefly the proportions of *stones, pebbles, clay* and *sand* The study of that part of geology which relates to *detritus*, is the true study of the first principles of elementary agriculture.

"By a reference to the system of classification, in the preceding part of this text-book, it will be seen, that all detritus is distributed into eight deposits. 1. Plastic clay. 2. Marly clay. 3. Marine sand. 4. Shell marl. 5. Diluvion. 6. Ultimate diluvion. 7. Post diluvion. 8. Analluvion. After studying the character of these deposites, nothing more is required than a mere application of common sense to each particular case.

"*Classification of Soils.*

"1. *Plastic clay.* This stratum is rarely found at the surface of the earth, except at its out-croppings in banks. It is destitute of any material portion of carbonate of lime—being the clay used by potter-bakers. Without any intermixtures, it would bake in the dry season, and be running mortar in rainy weather. Intermixed with marine sand, it would be tolerably productive. Wheat winter-kills in it more than in any other soil.

"2. *Marly clay.* (London clay.) This stratum is almost universal in bottom grounds. Alone, it bakes in a drought, and is mortar in a wet season. Wheat winter-kills in it. But it generally contains from fifteen to twenty per cent of carbonate of lime, and considerable muriate of lime. Wells dug in it, almost invariably furnish "hard waters," on account of the muriate of lime. These salts give it richness. Therefore if it is duly mixed with marine sand (which generally overlays it) it forms rich and very durable soil. From near Lake Champlain to Green county, on the west side of the Hudson, this clay, overlayed with marine sand, prevails. Also throughout most of the northern part of New-Jersey, along the valley of the Mississippi, &c. If the vast plains of *marine sand*, between the Mississippi and Rocky Mountains, are generally underlayed with this clay, as they certainly are in some localities, next century may, under the hand of culture, enliven that barren waste with fruitful fields.

"3. *Marine sand.* (Bagshot sand.) This stratum alone is a meagre barren soil. But makes an excellent kind when duly intermixed with the marly clay beneath it, as mentioned under marly clay. This stratum often passes into crag, or stratified gravel, hardpan, &c. The crag is a better soil alone, than the sand, excepting the hardpan and some other varieties, wherein the gravel is held together compactly by ferrugineous, calcareous or clayey cement. But if duly intermixed with the marly clay, it forms a good soil.

"4. *Shell-marl.* This deposite is a most excellent manure, when intermixed with any of the other soils, —best with soils in which clay predominates. It is chiefly carbonate of lime; but being made up of broken shells or minute species, it is always in a state suited to its application as a manure. But when alone, it is not very productive, especially in a dry season.

"5. *Diluvion* As this deposite is the most heterogenous of all deposits, it presents the characters of most other soils. In general it is very rich in vegetable manure; but it is often too loose, and requires an artificial intermixture of clay. It presents all its cha-

*See my Index to the Geology of the Northern states, 2d edition, 1830.

racters along the Erie canal, between the Little Falls and Genesee river. It frequently affords localities of vegetable mould, which may be advantageously carted upon other soils. As it is generally in narrow slips or small fields, the surrounding grounds may receive its benefits with but little carting.

"6. *Ultimate diluvion.* This seems to have been a thin universal mantle, covering the earth in the first ages after the deluge. It still remains undisturbed in the most ancient forests. But in all cultivated grounds, has been intermixed with the underlaying soils. In its undisturbed state, it is the soil to which the word *loam* is most properly applied. Alone, it is a durable and rich soil, excepting where sand predominates.—Mixed with other soils, it is always useful.

"7. *Post-diluvion.* Near the sources of the waters, which deposited this soil, it is always too coarse and destitute of any fertilizing quality—remote from these sources, it is fine and rich—midway between these extremities, it is middling in character. But post-diluvion is, from the nature of its origin, exceedingly variable—every locality depending on the deposits from which the waters flowed.

"8. *Analluvion.* This kind of soil is perpetually forming by the disintegration of rocks, whose surfaces are exposed. Its character depends entirely on the constituents of the rock. Therefore argillite and argillaceous graywacke produce, by disintegration, clay soils. Rubble wacke, granular quartz, and other quartzose rocks, produce sandy soil. Hornblende rocks produce a rich intermixture.* Limestone rocks, particularly argillaceous limestone, as the geodiferous limerocks, produce a rich calcareous and alluminous soil.

Broken fragments of rocks disintegrate and become soils with a degree of rapidity, directly as the superficial measure of surface exposed to the disintegrating agents (water, air, and variation of temperature) is to their quantity of matter. Consequently lands may be suddenly enriched by throwing upon them limerock, hornblende rock, (whether basaltic or primitive) argillite,&c., is in a finely pulverized state. Or they may be gradually and permanently enriched by scattering over them broken fragments, one inch, or two inches in diameter. The rock must be selected according to the original components of the soil; so as to supply what appears to be deficient. Tabular spar (a fragile variety of carbonate of lime, or limerock) which abounds along the western side of Lake Champlain, has recently been applied, with astonishing success, in the finely pulverized state. In the fragmented state, it had been applied for several years, to great advantage. No farmer is more opposed to mere speculative theory than myself; but facts place the advantages of strewing soils with pulverized rocks and fragments, beyond the reach of speculation.

"GEOLOGICAL ANALYSIS OF SOILS.

"The chemical analysis of soils, with a view to detect their ultimate elements, has promised much—particularly in the hands of Davy. But it has, in all cases, disappointed the hopes of the practical farmer, for reasons given under Fertility of Soils. It is to the Geologist, not the Chemist, that the practical farmer must look for instruction, so far as *mere soils* are to be considered. The detection and application of stimulating earths and salts (as gypsum, lime, &c.) and of decomposing or decomposable vegetable matters, come within the province of the chemist.

"Chemical analysis of soils, like other analysis of mineral bodies, give the ultimate elements in a manner, which is favorable to the pursuits of the student in chemistry and chemical mineralogy. The complicated mixtures of soils afford an excellent field for a trial of his strength in his first essays at analysis. This is, however, widely different from those researches and investigations, which the impatient anxiety of the farmer demands. The student is pleased with results, which evince the correctness of his preconceptions, and the adroitness of his manipulations, regardless of utility.

"But those analysis, which belong exclusively to the chemist, detect fugitive and variable materials, which are not to be considered as a part of permanent soil. They may be varied from year to year at pleasure; and their proportions may be calculated as they are artificially varied, or they may be detected and estimated by the chemist after they are added. As vegetable and animal matter is a geological deposite, easily detected and always present in a greater or less proportion, it should be considered as a part of geological analysis.

"Geological analysis of soils may be made, by pursuing the course of geological deposition in miniature. That is, soils may be deposited from water, in the assay glass or a common tumbler, after suitable preparations, so that the proportions of silex, alumine, animal and vegetable matter, water of combination, and power of absorbing, may be shown. These are the most important subjects of enquiry when the object is to improve the soil, or to judge of the best method of culture, or of the most profitable articles to be cultivated on particular fields or farms. The elevation of grounds, above the level of the ocean, and the degree of latitude, are also subjects of great importance.—Humbolt's Equivalents, deduced from comparing the effects of high latitudes with mountain elevations, should be duly applied.

"*Formula for Geological Analysis of Soils.*

"1. Select about one quart of soil which shall appear to be an average of the field. Spread it out and make it as dry as it can be made by the sun's heat, after thoroughly intermixing all parts of it.

"2. Pulverize it as fine as can be done by rubbing in the hands. Take half of it, and pick out, by the assistance of shaking in a dish, all roots, straws, &c., also all pebbles or grains over the size of a common pin-head.

"3. Weigh out, of the finest of it, with accurate scales, three parcels of 500 grains each. First for determining the water of combination. Second for determining the animal and vegetable matter. Third, for determining the silicious matter; or rather, the earthly part which does not combine with water excepting by superficial attraction of adhesion. The same parcel is also employed for determining the Aluminous part, and the power of Absorption.

"4. Heat the first parcel in a crucible, or gallipot, constantly stirring it with a dry pine stick, until the stick becomes a little brownish from the heat, when

"* Dr. E. James observes, (see Long's expedition, vol. 2, p. 402) that in the midst of the Great Desert, near the Rocky Mountains, where all was "brown and desolate, as if recently ravaged by fire," the hills of greenstone trap, which consist essentially of *hornblende*, were covered with a green turf from their bases to their summits. This is a discovery of more value to agriculture than all that Sir Humphry Davy ever made; though to the mineralogist and chemist, they are useful. But who knows the modest, the amiable, the excellent Edwin James? New England might be enriched by an attention to this subject—and would too, had Davy told us this fact.

pressed against the bottom of the crucible. Now weigh it, and set down the loss for *water of combination.*

"6. Heat the second parcel, stirring as before with a glass rod or slip of window glass, until it is at a red heat, and no glimmering sparks to be seen. Weigh it, deduct the weight of the water of combination, and set down the remainder of the loss for *animal and vegetable matter.*

"6. Put the third parcel into a pint of pure water. Stir it repeatedly for about ten minutes. Let it stand precisely three minutes for the silicious matter to settle. Pour off into another vessel, all the supernatant liquid and its contents. Add another pint of water to the silicious sediment. Let it settle just three minutes as before. Pour off all the supernatant liquid again. Dry the sediment about as dry as when weighed. Weigh it and set it down for *silicious matter.*

"7. Subtract the sum of the weights of the *water of combination*, the *animal and vegetable matter* and the *silicious matter*, from 200 grains, and set down the remainder for *argillaceous matter.*

"8. Pour into one glass vessel the two portions of supernatant liquid, which had been poured from the silicious matter, and note the time required for settling so as to leave the liquid clear. Set the time down for *power of absorption.*

"*Analysis made by Dr. T. R. Beck and myself, soils taken in the vicinity of Albany and Troy.*

"*Upland loam.* Absorption, 4 hours in settling—Water of combination, 4 per cent.—Animal and vegetable matter, 5 per cent.—Silicious matter, 63 per cent.—Aluminous matter, 23 per cent.

"*Best lowland loam.* Absorption, 3 hours in settling—Water of combination, 4 per cent.—Animal and vegetable matter, 12 per cent.—Silicious matter, 58 per cent. Alluminous matter 26 per cent.

"As the earth affords us our own vegetables for clothing and diet, and supplies animals with their living, upon whom we feed and with whose skins and clothing we are clothed, the earthy outside of our planet cannot be too well understood, as applied to agriculture. The preceding article should be studied, then as a branch of Geology. And I may here add, an average proportion of the common constituents found in the best soils of the kinds enumerated.

"*If water oozes into loose gravel, sand, or loam, about four feet beneath the surface*, as it often does in river alluvion—Absorption, 2 hours to settle—water of combination 3 per cent—animal and vegetable matter 12 per cent—silicious part 76 per cent—aluminous part 9 per cent, it is very productive.

"*Rich but winter-killing.* Absorption, from 12 to 26 hours to settle—water of combination, 4 per cent—animal and vegetable matter 8 per cent—silicious matter 46 per cent—aluminous matter 42 per cent.

"*Soils are durable and good, consisting of a mixture of ultimate alluvial loam, with argillaceous analluvion*, as the common soils of Columbia and Dutchess counties, N. Y. Absorption, 5 hours to settle—water of combination 4 per cent—animal and vegetable matter 6 per cent—silicious matter 68 per cent—alluminous matter 22 per cent.

Drive thy business; let not thy business drive thee. They who are easily flattered are easily cheated.

The Northern Farmer, *Published every other Saturday, by* H. & E. H. A. Newton, *at Newport, New-Hampshire.*

This is a neat quarto publication, at the moderate price of $1,25 per annum. Its contents bespeak a career of usefulness. We wish the publishers that success which their undertaking well deserves.

The Farmer and Mechanic, *Published Weekly, by* L. R. Lincoln, *at Cincinnati, Ohio.*

This weekly periodical was commenced in September last. It is in the quarto form, on a large sheet, at the price of $2 per annum. The Editorial department is under the direction of the Secretary of the Hamilton County Agricultural Society. It will, we are well persuaded, rank among the first agricultural journals of the country.

The American Ploughboy, *Published at the Office of the New York Farmer, by* D. K. Minor, *No. 35 Wall-Street, New-York.*

A specimen number only has been issued. It is in the Newspaper form, published weekly, at $1,50 per annum. This is the cheapest agricultural paper in the United States. The numbers will be regularly published in January next, when an edition of 3 or 4,000 copies will printed.

An Historical and Practical Treatise upon Elementary Locomotion, by means of Steam Carriages on Common Roads. Illustrated by Plates. By Alexander Gordon, Civil Engineer. 8vo. pp. viii. 192. London: B. Steuart, Cheapside.

We live in an age of wonders: and the amazing rapidity with which it has become possible to travel from one part of the kingdom to another, is not the least wonder of the age. Time was, when an Edinburgh merchant could boast, that he "should have in readiness a sufficient strong coach to run between Edinburgh and Glasgow, *to be drawn by six able horses, to leave Glasgow ilk Monday morning, and return ilk Saturday night. God willing.*" Six days in travelling from Edinburgh to Glasgow, with the assistance of six horses!—This was in 1678. In 1765, we find the following advertisement:—"A new post coach, hung on steel springs, with four horses and two postilions, set out from Greyhound Inn, Market Place, Bath, and the George Inn, Drury Lane, London, every Monday, Wednesday, and Friday, at 7 o'clock in the morning, and arrives at the above Inns on the following days at four in the evening. *The Coach stops all night at Andover*, going and coming." Our readers well know how possible it is to breakfast leisurely in London, and to sit comfortably down to a late dinner, or an early supper, at Bath, in the evening of the same day.

It is, however, worth while to inquire by what means, and at what cost, this improvement—as far as speed, saving of time, and travelling expences are concerned—has been obtained? We know that much is owing to the great pains which have been taken to form good roads;—but, generally speaking, this

quick travelling has been accomplished by means at which humanity is compelled to shudder. Listen to Mr. Gordon:—"The short average life of stage coach horses (three years only!) shows how dreadfully over-wrought and *out-wrought* they are by the speed now in practice. Driven for 8 or 10 miles, with an oppressive weight, they tremble in every nerve. With nostrils distended, and sides moving in breathless agony, they can scarce, when unyoked, crawl to the stable. It is true they are well fed; the interest of their owners secures that. They are over well fed, in order that a supernatural energy may be exerted. The morrow comes, when their galled withers are again to be wrung by the ill-cushioned collar, and the lumbering of the wheels. But we do not witness all the misery of the noble and generous steed. When the shades of night impend, the reproaches of the feeling, or the expostulations of the timid traveller, no longer protect him from the lash; and the dread of Mr. Martin's Act ceases to effect for a time its beneficial purpose; when the stiffened joints—the cracked hoofs—the greasy legs—and stumbling gait of the worn-out animal, are all put into agonized motion, by belabouring him *upon the raw!* The expression is Hibernian, but the brutality is our own. A few ill-gained pounds reconcile the enormity to the owner—and the *cheapness* and *expedition* of the conveyance give it public sanction: but HUMANITY *is outraged* by the same: *human sympathies are scared;* and the noble precept, that 'the merciful man is merciful to his beast,' is trampled under foot."

And yet the increased speed of which we have spoken, is but the crawling of a snail, compared with what has since been accomplished. On the 23d of November, 1830, the distance between Manchester and Liverpool was travelled by a carriage containing three persons, *in fifty-eight minutes!* In February, 1831, five loaded waggons, fastened to each other, were drawn nine miles in one hour. In the same month, *thirty waggons* fastened to each other, containing, with luggage, passengers, &c. the enormous load of ONE HUNDRED and SIXTY-FOUR TONS and a HALF, averaged *twenty miles an hour* upon level ground.

These are some of the wonders of STEAM; and the carriages propelled by this amazing power have been improving to the present moment. To furnish a history of those improvements—to point out their commercial importance—to explain their principle—to give practical illustrations of their utility—and to recommend their general adoption—are the objects of Mr. Gordon in the very interesting and important volume now before us; a volume which displays the ability of the writer in a striking point of view, and which, merely as a matter of entertainment, will amply repay an attentive perusal. The *first* chapter treats on THE ADVANTAGES of elemental locomotion;—these advantages are considered under the heads of *Commercial, Political* and *Moral.* As an immense saving of time, this mode of travelling, or of transporting goods, is equivalent to a saving of capital: the idea of distance is almost annihilated, so that merchandize or manufacture may be conveyed to any part of the kingdom at a very moderate rate of profit, and at the shortest possible notice. The subject is then regarded in a POLITICAL point of view, and Mr. Gordon shows plainly that the immense quantity of FOOD, which it would preserve for the use of the human species, would go far to frighten pauperism, and all its attendant evils of starvation, disease, and misery, far away from our beloved country. "By the substitution of inanimate for animate powers, this may easily be effected. At present the animal power employed in the commercial transportations of this great kingdom, is estimated to amount to two millions of horses: each horse consumes as much food as is necessary for the support of eight men. Hence the conversion of its consumption to purposes of human existence would, if carried to this practical extent, amount to a quantity of food equal to support sixteen millions of people."

This subject is pursued in detail at considerable length; and Mr. Gordon shows plainly the influence of the system in the price of grain—of butchers' meat—of tallow and candles—of hides, leather, and shoes—of woollen cloths—of all the necessaries of life;—as also the saving of expenditure in the army and navy estimates, and in the Post-Office department alone, to upwards of half a million. A necessity for the repeal of the corn laws would no longer exist.—The pilchards of the channel, and the herrings of Loch Fine, would find an easy inland consumption. Taxes would be no longer a burden; and from the savings a sinking fund would be speedily formed, under which the enormous national debt would eventually disappear! All these and other prodigies Mr. Gordon connects with the introduction of Steam Carriages, and goes very far to demonstrate, in the volume before us.

The influence of the system is then regarded as to its *moral* bearings—the greatest degree of safety to the passengers both as to casualties, and the diseases occasioned by cold and wet from exposure on the top of coaches. Its influence on humanity to animals we have already shewn. "Thus," says Mr. Gordon, "we have comfort for comparative inconvenience—safety for danger—accelerated speed without inhumanity—gain of time—of accommodation—of money—and, over and above all, as a non-consumer of food, we have by the substitution what will remove the host of Malthusian ills to a period of almost indefinite duration."

The volume furnishes a vast quantity of documentary evidence in illustration and confimation of all Mr. Gordon's principles, and a number of excellent engravings by which the whole system is explained and valuable information furnished to Mechanics. We had marked a number of passages for quotation, but must refer our readers, for the present, at least, to the volume itself, which is replete with curious and interesting information. The subject is one of national importance, and Mr. Gordon must be regarded as a philanthropist of no ordinary character.—*London Magazine.*

Cholera and Intemperance.—The Alms House, situated some miles from Baltimore, has been the scene of an impressive and awful warning to drunkards.—Of about 500 inmates, (the number on the 15th of July,) 475 were intemperate persons; this accounts for the extreme mortality of the Cholera there, which numbered 125 victims, one-fourth of the whole. We are glad to learn that the epidemic has suddenly ceased in that place, within a few days.

AGRICULTURE.

Tropical Plants.

We recommend the following circular to the effective consideration of every liberal mind. The friends of domestic industry must remember, that by the last tariff, the enterprise is deprived even of that protection which was incident to a revenue duty on tropical productions. The members of our Horticultural Societies must see in this contemplated Nursery of Dr. Perrine, the National Botanic Garden which they have so long desired in the South. The proprietors of Green and Hothouses must consider it as the speediest and cheapest means of filling them with rare and beautiful exotics. And every patriot must regard its immediate establishment as important in relation to the peace and prosperity of a now agitated community. We therefore sincerely hope, that every "intelligent friend of the Union" will speedily and cheerfully contribute his mite towards the formation of this Nursery of Tropical Plants in Tropical Florida.

Editor of the Farmer.

To the Intelligent Friends of the Union:—

The great prosperity to be derived from the cultivation of a single species of Exotic Plants, *was* shown by the old Southern States, in cotton; *is* exhibited by Louisiana, in Sugar; and may soon be felt, in some other staple, by the whole confederation. Unlike manufactures, the products of agriculture possess the internal power of rapid reproduction in a wonderful geometrical progression. A single grain, which, in two years, would furnish only seed enough for a single field, in two years more, will afford a sufficient supply to plant a hundred thousand fields! One Cochineal insect alone, whose progeny, in one year, would occupy the leisure of only one rural labourer, in one year more will give abundant employment to the leisure of one million of rural labourers. In a limited time and space, this extraordinary multiplication is as certain in practice as it is astonishing in calculation; and hence the delay or advance of a single year in forming a *nursery of supply* for cultivators, must be of incalculable importance to an agricultural community. The introduction of valuable vegetables to the industry of the South, is a sure and speedy remedy for its existing distress. Its large capital and fertile soils may still be devoted to the production of the short fibres of the dry pods of its annual Gossypiums, while its small capitals and sterile districts may be transferred to the cultivation of the long fibres of the fresh leaves of the perennial Agaves; and the resulting Henequen and Pita, as superior substitutes for the Hemp and Flax of northern climates, will become harmonious associates with Cotton, its ancient and principal staple. With the fibres of one exotic vegetable our Southern States have hitherto furnished a material for the clothing of a great proportion of the human race; and with the fibres of other exotic vegetables, they may hereafter supply the materials for thread, twine, and cordage, cambric and canvass, and diversified manufactures, to a great majority of the civilized world.

Besides the foreign plants, which are principally valuable on account of the quantity or quality of their fibres, there are thousands whose varied productions are still more profitable in proportion to the capital employed, which may be transferred from South America, Africa, and Asia, to our southern shores; and once within the range of American enterprise, industry, intelligence, and ingenuity will become converted into mines of vegetable wealth, of which their barbarous native countries have never even dreamed. By the cultivation of the Cactus Cochinilifer alone, the labour of merely the feeble in sex or age, at the South, may divert from Mexico its millions of monoply in Cochineal.

The foregoing considerations demand the *immediate* establishment of a Nursery of Tropical Plants at or near Cape Florida.

The climates of the Northern and Southern halves of the Peninsula of Florida, are different in kind or distinct in character. Above 28° it possesses the *improved* climate of our Southern States, and below that parallel it enjoys the *improved* climate of the West Indies. St. Augustine resembles Charleston and New Orleans, in the humidity of its winter and the transitions of its temperature. Cape Florida resembles Matanzas and Campeche, in the dryness of its winter and the uniformity of its temperature. The Southern half of Florida has also the perpetual trade wind, the daily sea and nightly land breeze, and the rainy summer of the Islands of Cuba, Hayti, Jamaica, and Puerto Rico, and of the whole Peninsula of Yucatan. Hence it combines all the phenomena of a tropical climate, viz., a constant aerial current to the west; an alternate land and sea breeze; a delicious dry, and a refreshing wet season; and a great uniformity of temperature throughout the year. But Tropical Florida, as it may now be called, must be blessed with a still greater equality of temperature than either the Islands of the West Indies or the Peninsula of Yucatan. It has not the *elevated* mountains of the former to chill and charge its atmosphere with thunder, lightning, storm, and rain: it has not even the *wide* surface of the latter to cool the air so greatly by night, or to heat it as greatly by day. But, above all, its happy equilibrium must be sustained by a friend peculiarly its own—the great Gulf Stream, which cherishes the shores it embraces with the heat which it brings from the Equatorial seas. The perpetual trade wind, in its passage across this warm river of the ocean, imbibes its equalizing temperature, and steadily distributes it, in travelling westwardly, over the whole surface of tropical Florida.

The whole extent, then, of Southern Florida must present unparalleled advantages for vegetable cultivation and for animal enjoyment. By analogy with Yucatan, its atmosphere should become proverbial for healthiness. Consumption, which annually destroys fifteen per cent. of the population between Boston and New Orleans, should at least be as rare a disease as it is in Campeche, where it is shunned as a virulent contagion; and the thousands of sufferers, who are sent in its incipient stages to perish amid the sudden transitions of the south of Europe, may hereafter change their voyage to recover in the equable temperature of the south of Florida.

The eastern shore, however, possesses some advantages for a settlement which are not common to the western side. The trade wind arrives at it with

the steady warmth of the Gulf Stream, and the pure freshness of the ocean, which may be somewhat disturbed in its course across the interior by the variations and exhalations of the soil; and vessels bound to it will not be exposed to that delay in time, or those dangers in navigation, which necessarily attend a voyage round Cape Sable. But especially in reference to the location of the first Nursery in Florida, the circumstance most essential to its success, will be found in speed and safety of communication with the great commercial emporium of the north; as nine-tenths of the valuable exotics of the world can be obtained more easily and cheaply, via New-York, than in any other way.

You are respectfully referred to Document, No. 198, and Report, No. 454, of the last Session of Congress, containing a letter from the Secretary of the Treasury, and a Report from the Committee on Agriculture, for an outline of the past services and future plans of the Subscriber, to accomplish the important enterprise of domesticating tropical plants in the United States. You will thence perceive that his hopes of ultimate success are founded on an act of the Legislative Council of Florida, incorporating, restrictively, a Tropical Plant Company, and on a Bill of the National House of Representatives, granting, conditionally, a Township of Land; and that, consequently, if the Company should finally be organized, and the Bill become a law, one or two years must subsequently elapse before any available funds can probably be obtained from either measure, or both combined. Nevertheless, during the ensuing winter and spring, the subscriber shall be employed in collecting the valuable vegetables of Yucatan and Tabasco, with the *hope* of transplanting them in Florida about the beginning of the periodical rains in May, and of thus commencing a permanent depot for the continued reception of superior species of all celebrated plants of the Torrid Zone. To realize this hope, an intervening accumulation of funds is essential for the transportation of a cargo of living plants, for the preparation of the soil to contain them, and for the maintenance of a family to attend them in the unsettled vicinity of Cape Florida. This obstacle once overcome, he will ensure the rapid growth of a systematic garden of improved exotics, in which scientific arrangement and even picturesque beauty shall be blended with PRACTICAL UTILITY—the grand end and aim of his persevering ambition. Believing, then, that the astonishing importance of a single year, in the geometrical progression of a *Distributing Nursery*, will justify the trial of every honourable means to hasten the period of its formation, this hurried address is, therefore, respectfully submitted to the patriotic friends of the *speedy domestication of Tropical Plants*, with the humble expectation that it may excite a *Subscription Loan* for that purpose. The Hon. J. M. White, the Delegate from Florida, in Congress, at Washington City, will take charge of all sums that may be thus advanced towards the contemplated Nursery, and will return a receipt for the same to each subscriber, which will entitle him to an equivalent in plants or stock. HENRY PERRINE,

Consul, U. S. A., at Campeche.

October 4, 1832.

P. S. *One Thousand Dollars* will be paid the Subscriber, for an **Invention** to separate from the FRESH LEAVES of the Agaves, those FIBRES which are called Sisal Hemp, by a Machine which will save as much labor as Whitney's Gin, in separating the Seeds from Cotton. HENRY PERRINE.

Management of Farm Yard Manure.

By J. FORMBY.

I made a proposal to the committee of the Liverpool Agricultural Society, of which I have the honor of being a member, to grant a premium to the owner or occupier of any farm in our district who shall construct a middenstead, or receptacle for manure, upon the most approved principle, considering that it would be a great advantage to the farmers who purchase manure, to have a place in which they could keep it without waste. Being thus provided, they might purchase when the article was cheap, or at such times as their teams were most at leisure to cart it home. My ardour was somewhat damped by the reception which my observations met with from one or two individuals then present, but nevertheless, I intend to make application to my brother committee-men.

For many years I occupied a farm at Maghull, about seven miles from Liverpool, and from my observations there, during those years, I was led to conclude that the farmers, to a great waste of their manure to the extent of one half of all they produced upon their farms, and I believe this to be generally the case throughout the north of England. Conviction was strongly impressed upon my mind by the following occurrence. I had set about eight acres out of nine, of which the field consisted, with potatoes, when I found that the manure was finished which had accumulated in my farm yard. I consequently dispatched carts to Liverpool, and purchased horse manure, out of a middenstead, in a confined situation, which was rendered compact by the trampling of pigs which had been constantly kept upon it, and moist from their urine; in short, it was what the farmers call in a green state, that is to say, it was not rotten. The remainder of my potatoes were planted upon this ninth acre with this Liverpool manure, and the same quantity was put into the drills as had been used of my own manure in the eight acres before mentioned, acre for acre, or drill for drill.

My crop upon the acre set with the manure from Liverpool, was double the quantity of potatoes to any other acre in the field. There was not any superiority in the field over any other part—it was all alike. Neither was there any difference in the original quality of the manure. My own was horse dung, and my horses had eaten as much corn as the Liverpool horses. I had had pigs also running upon my midden. But the difference when the manure come to be used, consisted in this,—namely; my farm-yard was large, and whenever any manure was thrown out of the stables it was spread over much space, and exposed to the open air and sun; whereas the Liverpool manure was kept in a place almost as confined as a vault, below the surface of the ground, with high walls round it, so that neither sun nor wind could get at it. This I am convinced, was the sole cause of the Liverpool manure having so much greater effect upon the crop of potatoes than that which was taken out of my own farm-yard. I consequently made other trials with similar results; for instance, where I put only half the quantity per acre of cow dung from a vault in Liver-

pool, that I put of cow dung made from my own cattle, and thrown into an open yard, or rather, put into a heap, into a hollow place scooped out for the purpose, I had quite as good crops of roots from the former as the latter. I must here observe that my manure had been made by cattle which were stall fed with turnips, mangel wurtzel, and bean flour, with a moderate proportion of hay, so that no milk cows in Liverpool had better diet. I must not omit to mention, that the effect of the Liverpool manure was very visibly beneficial to the subsequent crops of wheat in both the before named instances. I need hardly say, that manure which is made by animals highly fed, is superior in quality to that which is produced when they are poorly kept; but I must remark, that the better the quality of manure, the more it loses by evaporation when exposed to the action of the air. Even though formed into large heaps, for instance, of one hundred tons, it wastes exceedingly in the field, particularly during the drying winds of March, yet you will frequently see farmers practise the plan of carting the manure into a field, which is to be sown with turnips or planted with potatoes, some weeks, or perhaps months, before it is to be used; and some of them will even turn over the heap that it may become more thoroughly rotten, as though, like the withered leaves of trees or potatoe tops, it would not decay quickly enough in the ground. If any will take pains to weigh a quantity of good horse or cow manure, but particularly the former, when first taken out of the middenstead where little or no evaporation has taken place, put this manure into a heap in the field, let it lie a fortnight or thereabouts, then turn it over and suffer it to rot for another fortnight, and lastly weigh it over again, he will find that the manure will have lost one half of its weight, but it is still more worthy of remark, that the best part, viz. the ammonia, will have escaped into the atmosphere. To spread this kind of manure upon the surface of the land as a top dressing, there to let it remain exposed to the sun and air, is a still greater waste, although the practice is not very uncommon. Even a compost of dung and soil I would recommend to have spread during the rain, or in a wet season, that the juices may at once penetrate into the ground.

* * * * * *

Where a tolerable large stock is kept upon a farm, probably two middensteads would be better than one. I have it in contemplation, as soon as I can afford, to form two; one for the reception of horse manure, in connexion with the sties, in such a manner that the pigs shall trample as much as possible upon it, and their urine, and the waste they make from the slops carried to them, may keep it sufficiently moist and prevent heating and evaporation without the necessity of throwing an arch over. The other I intend to place close to the shippons, and, as the manure of horned cattle is of a moister nature than that of horses, and as it is generally mixed with a smaller quantity of straw or other litter, I shall not form this middenstead for the accommodation of pigs. To keep the manure therein sufficiently moist, I will have channels very carefully formed, to carry if possible, every drop of urine from the stables, as well as from the shippons, into it; and, notwithstanding the trouble of putting the manure in, and the still greater difficulty of geting it out again, in a wet or moist state, for mannre can never be too thoroughly saturated with urine, propose throwing an arch over it with apertures, which may be closed by means of doors, or lids to fit air tight. Between the two middensteads I will form a reservoir for any superabundant moisture which may be in either.

If any correspondent of the Farmer's Magazine shall approve of my ideas, and will through the medium thereof, favor agriculturists and landlords with a plan and specification of a middenstead, &c. he may render a service to those who choose to avail themselves of such kindness; and having said thus much, I beg leave to close my remarks—though, if any one shall endeavor to refute my arguments, I may, perhaps attempt to rejoinder.—*British Farm. Mag.*

Theoretical and Practical Farmer.

The following article, taken from an English publication, contains correct and useful observations. *Ed.*

There is no way in which a farmer may advantageously improve himself in his art, than by inspecting the practice of other districts and of other countries, but as the opportunity of inspection cannot always be commanded, the want may be supplied by obtaining circumstantial descriptions. To derive the full benefit from either source requires caution and the power of discrimination; for in no art do so many circumstances combine in the production of the results as in agriculture, and a difficulty generally arises in determining to what cause a particular effect is mainly to be assigned. Individual sagacity without scientific knowledge may go a great way in solving this difficulty, and in determining to what extent an old course may safely be altered, or a new one introduced, or why failure or success has ensued. We find that, in a certain place, the accumulated sagacity of ages has, without being able to ascribe any general principle for the effect produced, established a practice suitable upon the whole to the circumstances of the situation—but if the perfecting the art in every situation be the object, the necessity of scientific knowledge cannot be too strongly impressed.

Theoretical and practical farmers have been sometimes contrasted to the discredit of the former. A mere practical farmer is a man who knows how to manage to good advantage a certain piece of ground. A mere theoretical farmer is a man who understands the principles on which the operations of agriculture depend, without having acquired dexterity in their application. The one may be less successful than the other at first, but place them in a new situation, or let them have to determine on the introduction of a new practice, there can be little doubt which of them, supposing them equal in intellectual endowments, will be most likely to succeed—or in the description of the farm to be here given, which will be mostly to detect what part of the system is erroneous, and what correct. Experiments in agriculture are carried on under many disadvantages. We have it not in our power to vary at will the circumstances in which they are tried, or to repeat an experiment in precisely similar circumstances, and thus we may be led to ascribe to a cause what does not justly belong to it. Fortunately, however, the results in agriculture have their foundation in sciences, in which we have sufficient control over circumstances, and in which the facts can be generalized, and principles established with the completest certainty. Chemistry and vegetable

physiology afford the only sure means by which the art of agriculture can be brought to perfection, and Davy and Sinclair have done more towards its advancement, than might have been accomplished in centuries by practice unguided by science. Much has been done, where the knowledge of general principles was wanting, but their use is to diffuse the capacity for improvement, to make its progress more certain and more rapid, and to prevent the adoption of error. Some person may, for instance, have raised an excellent crop after dressing his land with salt, and thousands of bushels are immediately applied as manure; but no man who understood chemistry and vegetable physiology would ever have imagined that land could be made more fertile by such means.

There is every reason to expect that these sciences will soon be more generally understood. In towns, the means of acquiring the knowledge of physics is supplied to mechanics; and all other classes will be forced to keep pace with them. It seems absurd that any human being who can be kept at school for eight or ten years of his life, should arrive at the end of his education, in ignorance of the laws by which the events in nature around him take place. In relation to the aptitude of the human mind, this branch of knowledge might well be taught prior to that which is denoted literature, at least the one should accompany the other, and it is not difficult to conceive plans by which it might form a part of the course of instruction in even every country school, without much additional demand of time or of expense. The usefulness of the knowledge here recommended is obvious, and it is unnecessary to insist on the amount to which it would add to the sources of pleasure to all farmers, whether proprietors or tenants. Every land owner living in the country, is to some extent a farmer, or a planter, or a gardener: there is not an object around him that can occupy his attention for a moment, in which his interest would not be much increased by the understanding of physical science, and yet what class in society is so generally unprovided with this fund of intellectual recreation and resource against the tedium of idleness?

Intelligent Farmers.

Extract from an Address delivered before the Butler County Agricultural Society, by WILLIAM BEBB, Esqr. *October*, 1831.

A celebrated orator once said, "No matter what race of animals a country breeds; the great question is, does it breed a noble race of men! No matter what its soil may be; the great question is, how far is it prolific of moral and intellectual power." To which let me add, that in a land of freedom, especially, it matters not so much how fertile the soil, or how congenial the climate; but the great question is, are the farmers, the mechanics, the mass of the population intelligent? Are they patriotic! Do they understand their rights! Will they defend them!—Away! then for ever, with that disgraceful opinion, that neither literature, nor science, can be necessary to success in Agricultural pursuits.

If we regard the farmer merely as a cultivator of the soil, what profession in life requires more diversified attainments? What subject can you point out, in the vast range of science, which a farmer might not advantageously study? Have we not already seen, how beneficial the principles of chemistry may be to the farmer in analyzing his soil and manures? Are not the principles of mathematics useful to a farmer in measuring his fields and draining his meadows? Is Mechanical Philosophy useless to a man, who uses machinery every day? Should he be ignorant of Botany who alone cultivates plants?—And should that man have no idea of Natural History, whose peculiar business it is, to select the breeds of our domestic animals and rear them? O! how ridiculous and absurd! Why are not the Hottentots then, the best farmers on earth? Why is success in Agricultural pursuits confined to the civilized nations of the world at this day? Why has it always been so? Show me the savage horde, the barbarous tribe, or the half civilized nation on earth, either in ancient or modern times, that has excelled in agriculture, and I will grant that the farmer, who neglects the education of his children, is somewhat less culpable than I had supposed him to be.

But there are other, and if possible, more important reasons, why an American should be enlightened. Tilling the soil is not the only duty which he owes to himself, to his country, to the world, and to posterity.

He is a member of social society. He has a character to sustain in civilized life, where every man must find his level, and every class of men its place;—a place graduated on the scale of general intelligence, and general rectitude.

Collecting Manure.

A physician remarked to us the other day, that he never yet met with a farmer who considered manure as his gold mine, the treasures of which are to be collected in small grains, and most carefully preserved; but that all consider it rather as iron ore, not worth collecting in small quantities, nor of being preserved from the wastes of exposure to winds, heat, & storms. The following, from the Farm Reports of Kyle, in Ayrshire, speaks a different language.—*Ed.*

To increase the manure raised on a farm is a constant aim. A large portion of the straw is consumed by the cattle and horses, and no hay is ever sold. A considerable quantity of vegetable matter is collected from plantations and waste places, and with this and the refuse of straw, the farm-court and the approaches to it are kept littered so as to collect the droppings from the cattle and horses. The whole is occasionally carried off to the dung heap and new litter applied. It is surprising how much dung may be produced by constantly collecting all refuse, which, if allowed to lie, would soon disappear. The horses are never allowed to pasture; from the first of June to the end of October, they are fed in the house on green food, consisting of red clover, rye-grass, and vetches. The calves that are reared are also fed in the same way in a yard, and in the course of the pasturing season, convert a great deal of vegetable matter into excellent manure. There are always, too, at this season, a few pigs fed entirely on whey; and by these means much dung is made even in summer. There is no danger of dung made by animals in yards overheating in the warmest season, but without considerable precaution stable litter will then be very soon consumed away. For the purpose of preventing its rapid fermentation, peat moss was for some years used and regularly mixed with it in layers; but earth of any kind, or

road-scrapings, will be found to effect the purpose, and in winter the cleanings of the cowhouses answer the end. What is made in spring and summer is taken to the field as often as possible, put up into heaps over which the horses and carts pass, and then well covered over with earth.

American Hemp.

The following article has been politely handed to us for publication by Gen. Lynch. It was written to accompany the Hemp exhibited at the Fair of the American Institute last year; but is equally applicable to that exhibited at the recent Fair.—*Ed.*

To the American Institute of the city of New York. ABRAHAM VARICK of Utica, presents for exhibition and competition at the Fair in the City of New York, a bale of water rotted Hemp, containing about 160 lbs. raised, rotted and manufactured by Dr. SAMUEL ALLEN, of Copenhagen, in the county of Lewis, as his Agent the present year. In compliance with the request of the Managers of the Fair, Mr. VARICK submits a brief statement of the process of culture, and preparing the Hemp for market, and will cheerfully furnish any further information which may tend to promote that branch of agriculture, which is attended with such beneficial results to the agricultural interest in particular.

It has been supposed that Hemp requires a very deep and extremely rich soil; but it is now satisfactorily ascertained, that land which is well adapted to wheat or corn, is equally so to the raising of Hemp, and that the same preparation and fertility which will produce a good crop of wheat, is sufficient to produce a good crop of Hemp. The quantity of seed to the acre, should be from two to three bushels, according to the richness of the soil, to be sown as early in the spring as the state of the land will admit; but it may be sown at any time until the usual time of planting Indian Corn. It is of importance that a full compliment of seed should be used, to the end that the stalk should be small, otherwise, if the stalk is large, the quality of the Hemp is coarse, the quantity produced is less, and the process of manufacture more difficult. The Hemp is fit to be cut when the male Hemp begins to wither, and as soon as the seed of the female hemp is formed, and before it requires any hardness.

The Hemp is to be cut with an instrument resembling the common grain cradle, but with a scythe and fingers much shorter, the scythe being only two feet four inches long. The Hemp is to remain in the swarth for one day, and then to be turned and remain one day, and on the third day to be bound near the butt in very small bundles, with a band of the Hemp. Then to be set up on the butts in shock, until it becomes perfectly dry—the quantity produced, will be from two to four tons per acre, which will yield about $\frac{1}{6}$ of clean hemp fit for market. Vats are prepared near the mills of about 6 feet deep, and about 8 feet wide; the length to be varied at pleasure, the bundles of hemp are then to be carefully laid in lengthwise, until the vat is full, and pressed down with any sufficient weight to keep it solid. Water is then to be let in at the top, until the vat is filled, and to remain for two days to saturate the mass, after which, it is to be drawn off, and a supply of running water to be introduced, until the vat is filled, which is to run off continually until the hemp is properly rotted. The time will depend on the temperature of the water, and will be from 6 to 20 days; the water is then let off, and after about 8 hours the hemp is to be taken out and set up in the field on its butts, after opening the bundles, against a fence or ropes running through stakes fastened in the ground for the purpose. When perfectly dry, it is bound up and taken to a dry house, where it is to be kiln dried for about two days, from which it is to be taken to the mills for breaking and dressing. The mills used by Mr. Allen, are a patented Machine, by Daniel Ball, which is found to break and dress hemp better than any that is known in this country, and by the use of it, one man can probably do as much as ten men could by hand. With very little hand labor it is put in heads and packed in bales for market, as the one presented at the Fair.

The quantity prepared for market, at these mills the present year, will amount to about 60 tons, which will probably be increased the next year to about 200 tons.

Great difficulty has been found in inducing farmers in the neighborhood, to enter into the culture, until the proprietor of the mill offered a fixed price according to the quality of the hemp dried as it came from the field—in consequence of which they have gone extensivaly into the business, and find it a more profitable crop than any other they can raise.

SAMUEL ALLEN,
Agent for ABRAHAM VARICK.

Copenhagen, Lewis County, N.Y., Oct. 5th, 1831.

AGRICULTURE REPORT FOR AUGUST.—*London, Sept. 1st.*—This has been, as it generally is, a month dedicated to the labours of the harvest. Little was done before the begining of the month, but when the reapers went to work with the wheat in earnest, and in a short time the greater part of it in the Southern districts of Great Britain was cut and carried. The barley and oats followed, and for three weeks all went on as prosperously as heart could wish. It was dry, sunny and without mists, without rain, and freshened by gentle breezes. But an entire change has at length come upon us. For these ten days past the weather has been threatening, and partial showers have gone about, in some quarters heavy, in others light, and the progress of the harvest has been considerably impeded; but on Sunday night downright serious heavy rain commenced which has continued, with some anxious intervals up to the present time, with a continual heavy water charged atmosphere. Every description of corn that is abroad is drenched and soaked, straw and grain to the very core. Unfortunately, even in the Southern parts of England, there is too much in the field cut, and not carried. Of wheat, perhaps, not a very considerable quantity; some of the backward turnip wheat, some the produce of cold soils, and some the property of laggards. But oats and barley, particularly the latter, are very generally caught.

SCIENCE OF HUSBANDRY.—All nature is governed by fixed laws or principles, and the true art of husbandry consists in a correct knowledge of these principles, with their application to every plant, every soil, and every change in the seasons. The design of cultivation is to assist nature. We govern nature only by obeying her laws.

HORTICULTURE.

FOR THE NEW-YORK FARMER.

Millinet Boxes.

Mr. Fleet—Take thin lath boards, say half an inch thick, slit them with a lath gauge into strips four inches wide. Saw these strips into pieces eight inches long; nail them together in a square form, with inch *brads*; then cover them with millinet, nail them with tacks and leather or tape; then paint with some cheap paint to preserve the millinet from mildew and mice. These boxes should be put over all vines, such as melons, cucumbers, squashes, &c., as soon as they appear above ground; they may then be removed and put away for the season.

These boxes will be found an effectual remedy against frost and bugs. They are much cheaper than hand or bell glasses, less liable to be broken, and as giving more air to the plants, I think are better than either. If carefully used, they will last for a life time, and be found a very useful auxiliary in raising most tender plants. Let them be made in leisure winter hours.

Yours, &c.,

August 20th, 1832. Agricola.

Grapes in England.

[We are indebted to Mr. M. Saul, of Lancaster, England, for the following useful extract of a letter from Mr. *Money*, the celebrated Horticulturist, near London.—Ed.]

Sir,—Your's of the 10th came duly to hand, from which I perceive that you have been somewhat unsuccessful in the cultivation of grapes; and as you are about to extend your house, I beg leave to suggest one or two hints for your adoption.

A good foundation is a great desideratum; and when practicable, I raise the ground in front of the house 4 or 5 feet, in a sloping direction, for about 30 or 35 feet. I would have loam from a pasture ground; the sod cut fine; a fourth part rotten horse dung; and a fourth part sharp sand, from a river or brook. This, well incorporated, will do. Plant the vines on the outside, but do not suffer their stems to appear, or frost will injure them. If your rafters are 10 or 12 feet long, one vine to each will do; but if 18 or 20 feet long, plant 2 vines to each; for vines are very apt to bear too plentifully. Then they should be cut back to the front plate, and allowed to have one year's rest to strengthen them. They will thus be enabled to bear a great crop, and large bunches, that will weigh from 2 to 4 lbs. each. I now speak particularly of the Black Hambro'. Some persons lay 200 loads of compost, to form a slope, as I have described; then make drills across this slope, and cover it with manure; and water it every evening in dry weather. This process swells the fruit to a great size, provided the wood be thin and strong, and the bunches well thinned whilst very small.

You ask if I have any vines from eyes in pots. I have about 1,200; and layers 1,200. You wish for a Hambro', 3 years' old; but they are seldom larger at that age from eyes than they are at one year, except they be removed twice in the year, and placed in a larger pot each time. If kept in small pots, the fibres perish every year; therefore, I throw them away when two years old. I would recommend you to have 2 or 3 years layers. I have many, several of which bear from 5 to 20 bunches at this time. I plant more layers than eyes, and they will come into bearing before eyes. I am unacquainted with the particular kinds of grape you already possess; but beg leave to say what sorts I should prefer. The Muscat Escholata; Muscat Tottenham Park; White Frontigniac; West St. Peter; Black Hambro'*; Black Prince; New Dutch Sweet Water; White Muscadine. The Hesperion is very poductive, but not good in a house. A south wall, and the southern parts of this Island, suit them very well. The Muscat Escholata, though dear, is the best grape in the world. I have seen gentlemen from Oporto, Spain, France, Assyria, and the Cape; and they declare it to be the finest flavored grape they ever tasted, and far more productive, and earlier by six weeks than any of the Muscats. I consider that no house can be complete without this grape. I have one hundred and thirty-five sorts of grapes, but not any to be compared with this.

Make your ground good; late in September, or in the beginning of October. The wood will be harder, and not so liable to break.

* * * * * * * *

I remain, Sir,
Your obedient Servant,
Daniel Money.

Haverstock Nursery, Aug. 24, 1832.

FOR THE NEW-YORK FARMER.

Mixture of Seeds and Vegetables.

Mr. Fleet:—It has been a general opinion, that seeds and vegetables would not mix in their growth, otherwise, than by standing too near each other when in their flowering state; and the opinion and practice of the writer, have been conformable thereto, until some two years since I perceived that my cabbages were not true to their names; and although it attracted attention, yet was passed by then without further scrutiny; but a closer attention to this subject, has fully convinced me that vegetables are capable of mixture as well by their roots as by their flower. All sorts of beets, carrots, onions, turnips, potatoes, cabbage, &c., and probably it is more or less so with many other garden and field productions.

Very few, we believe, have attended particularly to the distance to which the fine roots of vegetables extend in the ground, and to these are attached another growth of fibrous roots exquisitely fine, and so tender as will nearly dissolve when first approached. These are the organs by which the food of the vegetable is collected from the earth, and by which the growth is sustained and matured, and when plants or vegetables of the same class, or those that have the least affinity, are grown so near that the roots come in close contact in the earth, each drawing nearly the same description of nourishment—the fibres interwoven—the union intimately blended, insomuch, that they become parts of one and the other, and each in their turn may rob its neighbor of the nourishment it has collected. Thus circumstanced, it might be expected that vegetables may be strongly impregnated, and more or less assume the character and color of each other.

The economy of nature is wonderful—we can do

* Black Constintia and White Hambro'.

but little more than witness her operations and record the facts; one of which I will now state in proof of the foregoing.

In May, 1829, I planted one bed of early horn carrot, and by the side of it one bed of blood carrot; and nearly one half the early horns were strongly colored, and some much like the blood carrots, particularly those nearest to the red carrots, and that side of each carrot next to the red had the strongest impression, and those at the most distant part of the bed were but little affected.

In turnips and cabbages I have witnessed the same effects.

Vegetables constitute a great portion of human sustenance, and all means and facts to effect their purity and goodness must be considered of high account, and possibly this intimation may cause minute observation and experiment, and result in greater perfection of seeds and vegetables. THE OLD MAN.

Derby, (Ct.) Sept. 1, 1832.

FOR THE NEW-YORK FARMER.

Native Ornamental Plants.

"If in the fields I meet a smiling flower,
Methinks it whispers, *God created me*,
And I to him devote my little hour,
In lonely sweetness and humility."

I find many of my neighbours pleasantly attracted 'over hills, through vallies and by river brink,' in search of our native uncultivated flora, and their gardens begin to show a brilliant collection of all that is pleasing to the eye.

This appears the most suitable season to make selections, the flowers being now mostly in bloom. Removals of plants may be made with a small ball of earth around the roots, and about one half of the flower stem left standing; in this way, with some shading and watering for a short time, one can have at once, all the shades of blue, pink, scarlet, yellow, purple, and white of the present and past month, blooming in our flower borders with all their charming wild native sweetness.

The prolific hand of Nature, has scattered more than one hundred and twenty varieties of herbacious and flowering shrubs, within twelve or fifteen miles of this village, and every hill and dale is now made tributary to add to the domestic floral wreath. How pleasant to notice this growing taste—and it is fondly to be hoped, this national kind of feeling, for the collection of many fine plants to be found all around us, may spread all over the country; great and prolific as it is in vegetable wealth, till at least, samples of what is useful, grand and beautiful, may be secured from the rapid advances made by the axe and the plough, in all directions among our great host of native beauties.

In elegancy of shape and brilliancy of color, many of our wild flowers will be found to bear a fine contrast with the exotic plants of any nation. At this moment, several indigenous plants are before me, which are superior to many green-house plants that require great care to obtain a dingy flower and sickly foliage, from a poor shaped plant.

To the amateur cultivator of flowers in the open ground, little need be said in praise of our elegant hardy plants, which are easy of culture, shew their beauties plentifully at the proper season, and stand the cold of our severest winters.

Our climate in this, and many other states, is found equal to that of any country for the cultivation of culinary vegetables and fruits: and when we look at our numerously fine and graceful forest trees, with the whole extensive variety of superb shrubs and flowers, we are led to conclude the time is not far distant when the ornamental department of gardening, in all its elegant branches, will be fully fostered, and prove our climate, soil, and capability of our people in this tasty fascinating art, not to be second to those of any country. LANSINGBURGH.

September 6th, 1832.

FOR THE NEW-YORK FARMER.

Laying Plants.

MR. FLEET:—Many of our garden plants, shrubbery and trees, may be multiplied by layers. To do this work, dig round the plants and hoe a hill three or four inches high, in which draw a trench, and bring down the branch intended to be laid, and fasten it in the trench with a hooked stick; then cover about two inches deep, leaving the top out. In a short time they will put out roots, and may be separated from the main plant, and transplanted into a nursery-bed, or set where wanted, and will make good plants.

By this mode you may increase your grapes, your rose bushes, pinks, sweet williams, and almost any perrennial plants.

For shrubbery and trees, take a box, nail four pieces to it of a length to raise it to the branch you wish to lay, fill the box with earth, and draw trenches in the dirt about three inches deep, in which lay the branches and fasten them as above directed with hooked sticks, and cover them with earth for two or three inches.—They will put out roots where covered with earth, and may afterwards be separated and transplanted.—By this mode, quinces, cherries, and generally most kinds of ornamental trees, may be multiplied at pleasure.

This is a much cheaper mode of multiplying fruit and ornamental trees, than applying to nurserymen, and is within the reach of every gardener and farmer. Yours, &c.,

August 20th, 1832. AGRICOLA.

Ornamental Plants.

We cheerfully comply with the request of a subscriber, to insert the following extract from an interesting article, first published in the Genesee Farmer, as containing a choice selection of plants for a garden. We hope the writer will favor us with a full descriptive catalogue of his whole collection. —*Ed.*

The luxury of vegetation the past season has amply repaid the labor bestowed on the garden; it overflows with its abundance of choice vegetables, fruits and flowers. Cast thy eye on the border; what a brilliant display of colors—how delightful the fragrance—how curiously and peculiarly are the different orders and species formed. This, a splendid Mexican Tiger flower, Ferraria tigridia; and this, Chinese changeable Hibiscus, Mutabilis; and these, (in sorts) our splendid native Lobelia cardinalis; this pretty plant, Adam's needle, Yucca gloriosa; and this, Adam's thread, Yucca filamentosa; then, Phormium tenax,

Agaricus campestris. This spacious and showy border is devoted to our native flora. From early spring to late in the fall, it is, as at the present moment, gracefully adorned by flowers of every varied form, brilliant color and pleasant odor.

Near that motto—

"Bring flowers, they are springing in wood and vale"—

notice that graceful Spiræa corymbosa; then, Atragene americana, the pleasantly odorous and white Azalea viscosa, the Cypripedium pubescens, the Aquilegia canadensis, the Geranium maculatum, the Polypodium vulgare, the Gerardia flava, the Lupinus perennis, the Cephalanthus occidentalis, the Spiræa tomentosa, the Malaxis lilifolia, the Spiræa salicifolia, the fragrant and scarlet Azalea nudiflora, &c., &c.

After which, Corchorus japonica, Agave americana, Aloe arborea, and Aloe retusa, Cactus cylindricus, and Polyanthus. Here the sensitive plant, Mimosa pigra, recoiling at the slightest touch, as quick as it is visible. This irritability or living property forms a very interesting link between the animal and vegetable kingdoms.

Then comes some choice Roses, followed by Day Lilies, Hemerocallis, Camelia japonica, Dahlias, in pleasing sorts. How ornamental that African Hibiscus; how profusely it flowers, and what a pleasing contrast between its rich yellow stamens, and gay straw color petals. This Red Fraxinella, Dictamnus rubra, exhales inflammable gas; and how rich and beautiful this Metrosideros lanceolata. The Tamarind, Tamarindus occidentalis, is seen next. Its leaves close at a particular time, and open then at another regular period, each day. This periodical closing of the leaves is very appropriately designated the sleep of the plant.

The remains of some Pæonies, viz. Tenuifolia, Corallina, Uniflora, Whitleji, and the Moutan rosea, shaded by a fine Double Sun flower, Helianthus annuus v. pleno. The increase of seed, on this single stock, at a moderate estimate, will be over three thousand. ☞ Next follows a curious collection of beauties and utilities.

A fifteen minute's close search among the curiously diversified leaves of the Paper mulberry, Broussonetia papyrifera, was not so fortunate as to find two leaves exactly similar in form. This, a soft Shell Almond. A leaf from a young Chinese Mulberry, Multicaulis, measures, thirty inches in circumference. What fine lungs! Leaves are said to be the lungs of plants.—An Asparagus Bean is found twenty-five inches long, and still growing. Bulbous Bean, Glycine comosa, of Wildenow and Pursh. A rose colored Perennial Pea, Lathyrus latifolius. Sweet scented Virgins Bower, Clematis flammula. Perennial Flax, Linum perenne, of Linneus. Officinal jalap, Colvolvulus jalapa. Rhubarb, Rheum undulatum. Wild Alspice, Calycanthus. Chamomile, Anthemis nobilis. White and Purple Egg-plant, Solanum melongena. Sea Kale, Crambe maritima. Cardoon, Cynara cardunculus. Globe Artichoke, Cynara scolymus. Cauliflower. Celery. Salsify. Swiss Chard, a new vegetable of much promise. Double flowering Almond. Chinese Double flowering Cherry. Double flowering Peach. All saints. Pendant flowering Cherry. Hercules' Club, Aralia spinosa, in a line with the Copper leaved Beech, Fagus caprea. Notice the numerous yellow birds close under that window, feasting on the capsule of that graceful weeping Birch, Betula pendula. There stands a monthly cherry: fruit middle of June, all July, August and September. How very pretty the early ripe seeds on that yellow flowering Senna, Colutea arborescens, appear hanging on the branches, interspersed with its autumnal flowers.—Next stands the Roan, Sorbus aucuparia, with its rich looking medicinal berries; and in that clump of trees and shrubs the beautiful Snowberry, Symphoria, the American mountain Ash, Sorbus americana, Crab Apple, Blue berried Dog-wood, Cornus sericea, Burning Bush, Euonymus europæus, Privet, Ligustrum vulgare; their white, purple, blue, black and red berries a fine contrast. On the east of the summer house, notice that Spanish Chesnut, Castanea vesca, Hoptree, Ptelea trifoliata, with hops, Irish Ivy, Hedera hibernica, Striped Maple, Acer striatum, and that very pretty Ring Willow, Salix annularis, Pecan nut, Juglans olivæformis, Filberts. The foliage of the Silver Abele, Populus alba; a fine green on the upper surface, and silvery white on the under. Black Willow, Salix nigra, Irish Yew, Taxus hibernica, Sweet Scented Willow, Salix lucida, Double Flowering Sloe, Prunus spinosa, Variegated Willow, Salix caprea, Weeping Ash, Fraxinus pendula, Venetian sumac, Rhus cotinus, with its rich and curious purple fringe. European Service Tree, Sorbus domestica, distinguished in France for its fine eatable fruit. Japan Soap Tree, Kolreuteria paniculata, Tree of Heaven, Alianthus glandulosus; its leaves three to four feet. Dwarf white flowering Horse chesnut, Aesculus monostachya, Glauca Magnolia pendant, from which notice the leaf and moss cradles, containing the following Air plants—Serata, Triflora and Lutea. See these beautiful Double Tuberose, Double Altheas, splendid cypress vine, Clematis flamula, Coreopsis lanceolata, Rudbeckia, Cobea scandans, Dew plant, Mesembryanthemum glabrum, Ice plant, Mesembryanthemum crystallinum.

Notice particularly that beautiful diminutive Weeping Plum—how pretty: pendant trailing lightly on the surface of the ground. That weep is a work of man—his art. His cultivation may improve, but still he can produce no new species. "The *creation* of every tree and every herb bearing seed *after his kind*, is one of the very first truths demonstrated by the study of plants." God originally willed all that should exist.

That leaf, placed on its back, with a little earth sprinkled over it, producing, in a very singular manner, twenty-eight young plants, beautifully formed on its edge. This is the mode of propagating from the leaf; and the plants, in the same row, may be increased in the same manner, viz: Bryophyllum calcinum, Gloxinia speciosa, Hoya carnosa, Crassula and Cotyledon orbiculata.

TRANSPLANTING EVERGREENS.—Mr. James Stuart, in the memoirs of the Caledonian Horticultural Society gives the following directions.—The pits are to be prepared from 5 feet to 8 feet in diameter, and from 2 feet to 3 feet in depth; rather wider at the bottom than at the top; and the earth taken out and placed in two heaps: the one, surface, or good soil, fit to put about the fibrous roots; and the other, subsoil, to be partly used, and partly carried away. Before removing the plants, tie up their lower branches, and draw a circle on the earth, round each plant, in

proportion to its size. Plants of 6 feet or 7 feet in height "will require a circle of 3 feet in diameter; and taller plants a proportionally larger one. Next, carefully dig a trench about 3 1-2 feet on the outside of the circle, and to such a depth that its bottom shall be 6 inches below the roots of the tree; carefully paring round the circle, so that the ball of earth may be preserved entire. When the ground is of a sandy or gravelly nature, it will be necessary to begin at the bottom of the bulb, and wrap it closely round with hay ropes till you come within 3 inches or 4 inches from the surface. As sandy or gravelly ground has a tendency to fall from the roots, it will be necessary in order to prevent this, to raise the plant gently on one side, to place under it a little straw, and to bind this with hay ropes; and then to raise it on the other side likewise, and secure it in the same manner. In order to lighten the ball as much as possible, pare off a little earth from the top of it, to the depth of the surface roots. That the plant may be safely conveyed to the place intended for it, you must be provided with a deal-bottomed handbarrow and truck. The mode of getting the plant on the barrow is, by raising it on one side, pressing in the edge of the barrow, and sliding the plant gently on till it be fairly balanced."

In placing the plant in the pit, "lay the steels of the barrow 15 or 18 inches over the pit," in which there should be two men ready to receive the plant; and then "let one or two persons raise the other end of the barrow to such a position that the plant may slide gently into the centre of the pit." Being placed upright, fill in round it the best part of the surface soil; and when within 3 inches of the surrounding surface, put in decayed leaves to the depth of 3 inches. After this, cover up the whole with the inferior or subsoil taken from the bottom of the pit, forming a basin round the plant for retaining water. Tread in the soil a little, if it should be found necessary; but depend chiefly upon watering, for consolidating about the roots. From ten to twenty large pots of water should be immediately given, according to the size of the plant and the quantity of loose earth in the pit. If the weather should prove dry afterwards, the leaves should be watered in the evenings. Mr. Stuart has planted evergreens with success at all seasons; but he considers the last three months of the year best, when the weather is mild.

Splendid Flower.—Among the flowering aquatic plants, there is one, that for magnificence and beauty, stands unrivalled and alone. We have seen it on the middle and southern waters, but of the greatest size and splendor on the bayous and lakes of the Arkansas. It has different popular names. The upper Indians call it *panocco*. It is distinguished by botanists by the name *nymphea nelumbo*. It rises from a root resembling the large stump of a cabbage, and from depths in the water from two or three to ten feet It has an eliptical, smooth and verdant leaf, some of the largest being of the size of a parasol,. These muddy bayous and stagnant waters are often so covered with the leaves, that the sandpiper walks abroad on the surface of them, without dipping her feet in the water. The flowers are enlarged copies of the *nymphea odorata*, or New England pond lily. They have a cup of the same elegant conformation, and all the brilliant white and yellow of that flower. They want the ambrosial fragrance of the pond lily, and resemble in this respect, as they do in their size, the flowers of the laurel magnolia. On the whole, they are the largest and most beautiful flowers that we have seen. They have their home in dead lakes, in the centre of cypress swamps. Musquetoes swarm above. Obscene fowls and carrion vultures wheel their flights over them.—Alligators swim among their roots; and moccasin snakes bask on their leaves. In such lonely and repulsive situations, under such circumstances and for such spectators, is arrayed the most gaudy and brilliant display of flowers in the creation. In the capsule are imbedded from four to six acorn-shaped seeds, which the Indians roast and eat, when green; or they are dried and eaten as nuts, or are pulverised into meal, and form a kind of bread.—*Flint's Mississippi Valley.*

The Seedling Cherry.—Mr. B——t, of Albany, related to us the following anecdote. A getleman took his friend to see a very fine garden of one of his neighbors. While the proprietor was making ready to wait on them, they took a walk around the garden, and when passing by a young cherry tree, his friend seeing an excellent looking cherry, and without much thought was instantly enjoying and extolling its remarkably fine flavor. Presently the proprietor joined them, and with many expressions of delight, congratulated them on coming just at that time, as his choice seedling cherry tree had on it one splendid cherry in its full ripeness, and said he would now test its qualities in company with them. Quickening his steps, he led them to the very tree from which the cherry had just been taken, and seeing it was gone, unconsciously raised his hands to the heavens, and expressed the utmost disappointment, grief and mortification. Five years since, said he, I mixed the pollen of two cherries that I considered would produce the best cherry that has ever been grown—I have nursed the tree as I have my only child—have written to my friends of my high expectations; and now some worthless, unprincipled villain has wantonly robbed me.

Such were the feelings of the party, that the visit could not be any longer enjoyed, although nothing was divulged. After leaving the garden, the gentleman remarked to his friend, You have, I suppose, learned a lesson? Yes, one which I shall never forget. A thousand dollars would have been no compensation for the painful feelings I have endured. —*American Ploughboy.*

Plums.—The Genesee Farmer gives the following information on the success of the plum in the vicinity of Rochester. It is gratifying to learn that the bes varieties of fruit are introduced into the Western counties. Many portions of the older counties are strangers to them.—*Ed.*

We have this year in endless variety and great abundance. Seedling egg and gages seem to predominate; they are of all colors and sizes, and some very good. The *Washington Bolmar* has this year shown fruit, and reaches all of our expectations, both as to flavor and size, many of them measuring more than six inches in diameter: they are a gage strictly, with a small stone and of a sugary sweetness.

Plums were produced in such overflowing abundance, that the curculio was a welcome guest, for if double the quantity had been destroyed, there would have been too many; but we fear for next year, as

there must be an alarming increase of this troublesome and destructive insect. We observe that its depredations on peaches amount to nothing more than to cause the fruit to grow, the flesh of the peach not being the proper *pabulum* for the growth and existence of the *nidus* of this insect, a few that are stung fall early, too soon we think to perfect the worm for the changeless state."

PEACHES.—It will be perceived by the following extract from the Genesee Farmer, of 22d ult., that peaches are abundant in the Genesee country. As far as our acquaintance and observation have extended, nurserymen and horticulturists generally are becoming discouraged with the peach. The yellows is comparatively their only enemy. We are persuaded the remedy for this disease will be found out. Let experiments be tried.

"While the greater part of that region of western country which is capable of producing the peach in perfection, was by the severity of the last winter wholly ruined for this year's crop, either by the blasting of the blossom bud; or in many places, particularly in Ohio, the destruction of the whole of the last year's wood—that district that used to be called Old-Genesee, has not only escaped, but turns out wonderfully prolific; there is hardly a tree in these parts, but what is badly broken, and thousands of bushels are now lying on the ground. Fine peaches were yesterday sold about the streets at 25 cents the bushel, and we saw a boat taking them on board at one dollar the barrel, for an eastern market. The flavor of our best varieties are not as fine as usual, owing to cold, sunless weather during the latter part of August, and up to this time.

The early green rareripes are now in perfection, and the yellow and purple, with yellow flesh, just ripening, which in point of time, is fully a fortnight later than for many years."

VEGETATION OF THE PAMPAS OF SOUTH AMERICA.—The great plain of the Pampas, on the east of the Cordilleras, is about 900 miles in breadth, and the part which I visited, though under the same latitude, is divided into regions of different climate and produce. On leaving Buenos Ayres, the first of these regions is covered for one hundred and eighty miles with clover and thistle; the second region, which extends for 450 miles, produces grass; and the third region, which reaches the base of the Cordilleras, is a grove of low trees and shrubs. The second and third of those regions have nearly the same appearance throughout the year; for the trees and shrubs are evergreens, and the immense plain of grass only changes its colour from green to brown; but the first region varies with the four seasons of the year in a most extraordinary manner. In winter, the leaves of the thistles are large and luxuriant, and the whole surface of the country has the rough appearance of a turnip field. The clover in this field is extremely rich and strong; and the sight of the wild cattle grazing in full liberty on such pasture, is very beautiful. In spring, clover has vanished, the leaves of the thistles have extended along the ground, and the country still looks like a rough crop of turnips. In less than a month the change is most extraordinary; the whole region becomes a luxuriant region of enormous thistles, which suddenly shoot up to a height of 10 or 11 feet, and all in full bloom; the road or path is hemmed in on both sides; the view is completely obstructed; not an animal is to be seen; and the stems of the thistles are so close to each other, and so strong, that, independent of the prickles with which they are armed, they form an impenetrable barrier. The sudden growth of these plants is quite astonishing, and though it would be an unusual misfortune in military history, yet it is really possible that an invading army, unacquainted with this country, might be caught by these thistles before they had time to escape from them. The summer is not over before the scene undergoes another rapid change, the thistles suddenly lose their sap and verdure; their heads droop, the leaves shrink and fade, the stems become black and dead, and they remain rattling with the breeze one against another, until the violence of the pampero or hurricane levels them with the ground, where they rapidly decompose and disappear; the clover rushes up, and the scene is again verdant. —*Jamieson's Journal—Arcana of Science.*

RURAL ECONOMY.

FOR THE NEW-YORK FARMER.

Cheap Fodder.

SIR, I observe on page 180 of your current volume, that there was, during the spring, a scarcity of provender for your cattle. Our farmers make a very cheap fodder, which, as it may not be generally known, in America, I take the liberty to communicate to you.

It is made of wheat chaff, or cut straw, and chopped potatoes mixed. It is prepared as follows. A common boiler is set in a furnace. Water to the depth of a few inches is first put in; and then a bottom fitted in over the water, with holes bored in it. The boiler or kettle is then filled with the straw and potatoes, and steamed until the potatoes become soft. This is found to be an excellent and cheap fodder for cattle, milch cows, &c.

Several large farmers have got steam apparatus made expressly for the purpose, which they consider to pay well. In my next, I hope to give you a description of them. Your's, M. SAUL.

Lancaster, (Eng.) Sept., 1832.

FOR THE NEW-YORK FARMER.

Yellow Water in Horses.

MR. FLEET:—I have said in a former communication, (page 332,) that most of our farriers and books on farriery kill more than they cure. In this assertion I believe I am correct, few of them understand the disorder they would mitigate, and often give medicine that is utterly useless or injurious. I would instance *Hind's Farriery*, now in the greatest repute of any among horse dealers. Under the article Yellow Water or Jaundice, he directs aloes, calomel, and hard-soap; neither of which, in my opinion, have any influence in curing this disorder.

This disorder is obviously owing to a derangement of the bile. The evacuations all indicate it to be such. To cure it then, the first object is to lead the bile into the bowels. To do this, take half an ounce of Gambouge, 1 oz. of aloes, add flour and water until it is of the consistence of dough, devide into six or eight pills, and give one pill about the size of a hen's egg, every night and morning. Dissolve 1 oz. of salt petre in two

quarts of water, give about half a pint of this solution three or four times a day, in a pail of water, to the horse as his only drink, and in a few days the disorder is cured, but in my opinion the medicine prescribed by Mr. Hind, will never effect a cure. Your's,

September 10th, 1832. CARLO.

Turkish Cure for Founder in Horses.

Letter from Commodore Porter, American Charge des Affaires at Constantinople, to the editor of the Sporting Magazine—On the curious treatment of Founder in Horses, by Turkish Veterinary Surgeons.

DEAR SIR—There are few sailors who are "judges of horse flesh," and I make no pretensions to that sort of knowledge. I am going, however, to relate what I have seen: if it is worth knowing, it is well; if not, it is the easiest thing in the world to throw this in the fire.

Some time ago I bought a very good horse at the bazaar, for which I paid nine hundred piastres, or fifty dollars. Some thought he was dear at that price, as you may, for five or six hundred piastres, buy here such a horse as no gentleman need be ashamed to mount; however, I was much pleased with my bargain. On my removal from Buyurdine to this place, the horse was rode very hard, and on his arrival at Top Thana, a distance of 14 or 15 miles, was permitted to stand in a cold wind and rain two hours, without being rubbed down or walked about: consequently he became foundered in the right fore leg, so that he could scarcely walk.

I sent for a Turkish farrier, the one who attends the sultan's horses. He immediately pronounced the horse foundered, and said he must be bled in the inside of the diseased leg. He put a nipper on his nose to keep him steady, then took up the left leg, and crossing it over the right, gave it to an attendant; he then struck his lancet into the vein a little above the fetlock joint, and took from it about three and a half pounds of blood, the vein bled very freely. He now said he had taken enough; he then went to the very opposite side of the leg, and striking his lancet into a vein above the knee joint, a single drop of blood exuded, and both that and the first opened vein instantly ceased bleeding. There may be no novelty in this, but it certainly astonished me to find, that opening two veins in the same limb, would stop both from bleeding: such, however, is the fact, for I witnessed it.

He desired that the horse should rest the next day, that he should then be rode with great violence until he was in a profuse perspiration, the diseased limb then to be rubbed with wet salt, (to which I added a pint of hot brandy) then rubbed dry, and walked about until cool, and covered with blankets; the same process to be repeated next day, which was done, and all lameness from that time disappeared—the horse, the third day after the first rubbing, was perfectly well.

Antient Chelerdon, Kadi Kinny, April 21, 1832.

HORSES.—Let every horse you keep be a good one, because he eats no more than a poor hack; and he will do more service, and sell for something if you wish to part with him.

Castor Oil from Castor Beans.

An improvement in the process of making warm pressed Castor Oil from Castor Beans, invented or discovered by TIMOTHY PHARO, *of Tuckerton, New-Jersey.*

SPECIFICATION.—A kiln built of bricks, about five by six feet square, and four feet six inches high, is to be erected, and to be covered with tin or sheet iron, supported by small iron bars across the top. A wooden frame, from four to six inches deep, is placed on the edges of the top of the kiln, to confine the beans on the tin floor, while warming. A large size iron stove is to be enclosed in the kiln, with the stove door on a line with one end of the kiln, for the purpose of keeping up the fire, to raise the proper heat. At the opposite end of the kiln, a small iron door is hung for the purpose of opening and shutting occasionally, to graduate the heat.

When preparing to press the oil from the beans, the beans are to be placed upon the tin or sheet iron floor above described, where, by means of the heat raised by the fire kept up in the stove, the beans are warmed to any degree the manufacturer deems proper, and are thence removed into the iron churn to be pressed with an iron screw, propelled by horse, steam, or water power.

The above described process of procuring the oil from the beans, is new and to be preferred; because,

1st. The beans are more expeditiously warmed, and saves the expense of the labor of one hand.

2d. All danger of scorching them is avoided, and thereby the oil is saved from any disagreeable taste, and procured in the utmost purity.

3d. The beans can be properly warmed and dried for pressing, even when in a damp state, which cannot be done by a cylinder.—*Journal of the Franklin Institute.*

FOR THE NEW-YORK FARMER.

Amber Beet or French Honey Beet.

From this noble root, it is said, they are now making a large quantity of Sugar. The saccharine quality apparent in this vegetable must render it very nutritious; and for cows it is excellent, for fattening or producing a rich flow of the best milk, and from partial experiment it is believed that one fourth of an acre of ground would yield 8 tons, which would support a cow for 12 months. About 31 lbs. per day for 300 days would probably be needful, and this would consume about 5 tons; and the other three tons if sold would purchase hay and other food for the 65 days, during the absence of this root—from the time it fails in the Spring, until it is again produced. This milk, at the moderate price of 4 cents per quart, will amount to $146, and at 6 cents to $195. The rent of the land, the seed, the manure, tending the plants and the cow, might be fairly estimated at about 25 cents per day, which would leave about $60 profit on one cow. A cow thus fed would likely be much increased in value; and the manure, when the fluids as well as the solids are all saved, on the soiling system, the quantity would be surprising, if worked up with proper absorbents.

Derby, Ct. Sept. 1832. THE OLD MAN.

FENCES.—On a thin and adhesive soil, it is very difficult to rear and preserve quick fences, A mixture of beeches and thorns is what has been used, but from the experience had in attempting to fill up gaps in old hedges, crabs are recommended as decidedly superior to thorns for all tenacious poor soils, and in such soils beeches will make a fence and afford shelter where no other tree will. The plants were placed from ten to twelve inches asunder. This distance is quite close enough for the purpose of a fence; and it is obvious, that the more plants we put to a given space, the less chance there is of their thriving, especially if the ground be unfavorable. In such a situation it is very material to avoid cutting them till they have gained some strength and size; and, unless where very luxuriant, they have not been brought into shape with the pruning knife till at least after three years old.

GATHERING TURNIPS.—A writer in the Gardener's Magazine gives the following directions. "The first, second, or third week in October, pull up every turnip on the farm, whether they have done growing or not, all the better. Lay them carefully across the tops of the ridges or drills; let them remain in this state a week or fortnight before cutting off the tops and tails. The grand advantage of leaving on the tops is, that the roots will become doubly nutritious, as well as doubly durable."

[The above directions are, we presume, better adapted to an English climate, than to that of the U. States. —ED. N. Y. FAR.]

SAW DUST FOR HOGS.—We bespeak the gravity of our readers on reading the following; they must not laugh at us for our easy credulity, nor reject the proposition on account of its seeming improbability. For ourselves, we have no doubt of the truth of the facts stated, nor of the soundness of the principles upon which the experiments were based. But to the subject.

A few weeks since, two of the members of the United Society of Shakers, at Lebanon, N. Y. were at our office. They informed us, that they had tried an experiment in feeding hogs with the *saw dust* produced in their button and other wooden ware factory, by mixing it with the usual food, in the proportion of one-third; that is two parts of the usual food, and one part of the saw dust; and that the hogs throve fully as well as when fed in the usual way. From their experiments they are satisfied that the saw dust was digested by the animals, was nutritious, and answered in all respects the purposes of the usual food. They had endeavored to ascertain the least quantity of the usual food necessary to the thrifty growth of their hogs, and then used saw dust as a substitute for one third of it; so that the objection that the two thirds of the usual food was probably sufficient, cannot be raised. They have not completed their experiments, but are extending them to ascertain whether a still greater proportion of saw dust may not be used, and how much more. We believe they intend also to try experiments with other animals.

These facts may be relied on as strictly correct. The people who tried the experiment, and those who related them to us, are not given to visionary projects nor to marvellous story telling. They are generally scientific men; one of them that visited us was one of the best botanists we ever met with. It seems no way improbable that wood should contain a large quantity of nutritive matter. When decomposed by fire the proportion of insoluble matter is very small, not greater than that of any kind of farinacious fruit or grain after the water has been evaporated. There is a large quantity of saccharine matter in most wood, or at least in the juices, and we think it no way improbable that both gluten and farinacious matter, as well as sugar, may enter largely into the composition of the soluble parts of wood—even what is called by chemists *woody fibres*—and that these parts of wood when pulverised, may be digested and become nutritious matter in the stomachs of animals. We are not sure that we recollect perfectly the kind of wood used by the Shakers in their experiment, but believe it was what is commonly called soft maple, *Acer rubrum*. They have promised us a detailed account of the result of their experiments as soon as they shall have completed them.—*Am. Farmer.*

BRITISH CATTLE.—A century ago, our cattle from the inferiority of their feed, were not one half, sometimes even not one third of their present weight. It is computed that England and Wales now contain, at least, five million oxen, and a milion and a half of horses, of which about a million are used in husbandry, 200,000 for pleasure, and 300,000 are colts and breeding mares. The number of sheep is about twenty million, and eight millions lambs. The number of long wool sheep is about five millions, their fleeces averaging 6 or 8 lbs; and of short woolled sheep fifteen millions, the weight of fleece averaging from 3 to 3¼ lbs. The quantity of wool annually shorn in England is from eighty to eighty-five million of pounds. The Merino were introduced about the beginning of the present century, and were imported in large numbers after our alliance with Spain in 1809. The great pasturage counties are Leicester, Northampton, Lincoln, and Somerset; and for butter and cheese, Cheshire, Gloucestershire, and Wiltshire. The import of butter and cheese from foreign countries is checked by duties, but these are important articles of Irish commerce with England.

CHAFF FOR HORSES.—Mr. Thomas Williamson, in a communication to the Bath Society on the use of chaff, or cut hay for feeding horses, remarks, that "one hundred weight of hay was found to yield 20 bushels of chaff pressed into the measure and piled as high as it could safely be carried; consequently each bushel weighed about 5 1-2 lbs. It was found that five horses would eat twelve bushels of chaff in 24 hours, and that somewhat more than half their usual food was saved by having it cut."

Mr. Benjamine Hale, proprietor of a line of stages running between Newburyport and Boston, has given a statement, published in the Massachusetts Agricultural Repository, vol. 10, p. 400, by which it appears that the total saving in using Hotchkiss's Straw Cutter nine months, viz. at Newburyport four months, and at Salem five, in the years 1816—17 was $780,97.—*N. E. Farmer.*

LOVE OF NATURE.

Wherever you see a flower in a cottage garden, or a bird at the window, you may feel sure that the cottagers are better and wiser than their neighbours.

DOMESTIC ECONOMY.

Preparing Potatoes as Food.

Most English cooks, I apprehend, think the boiling of potatoes rather unworthy much attention, hence we frequently find these roots but indifferently dressed. In Ireland, on the contrary, that potato-fed population have brought the art of cooking them to great perfection.—Guy says,

"Leek to the Welch, to Dutchmen butter's dear,
Of Irish swains potato is the cheer."

The following accords with the Irish mode of preparing potatoes as food, and is from the pen of Benjamine Count Rumford, whose successful exetions in the application of science to the purposes of ordinary life, have contributed much to the comforts of mankind.

"The potatoes should be as much as possible of the same size, and small ones boiled separately; they must be washed clean, and, without paring, put into a pot with cold water not sufficient to cover them as they will themselves produce a considerable quantity of fluid before they boil; they do not admit of being put into a vessel of boiling water like greens. If the potatoes are tolerably large, it will be necessary, as soon as they begin to boil, to throw in some cold water, and occasionally to repeat it, till the potatoes are boiled to the heart, which will take from half an hour to an hour and a quarter, according to their size, they will otherwise crack, and burst to pieces on the outside, whilst the inside will be nearly in a crude state. During the boiling, throwing in a little salt occasionally is found a great improvement, and it is certain that the slower they are cooked the better. When boiled pour off the water, and evaporate the moisture, by replacing the vessel, in which the potatoes were boiled, once more over the fire: this makes them remarkably dry and mealy."—[*Lon. Hort. Reg.*] SOLANUM.

FOR THE NEW-YORK FARMER.

Madder Red for 10lb. of Yarn, &c.

MR. EDITOR.—Take three and a half pounds madder, pour on to it one gallon of vinegar, and one of water, or two of sour cider. Dissolve in it one pound of pearlash or potash, let it stand over night. In the morning add four gallons of rain water, and hang it over a brisk fire, and let it boil an hour or more. Take two pounds of alum, pour on to it two gallons of cold water, in a separate vessel; when the alum is dissolved, the yarn or cloth may be put in to this alum water, and lay for half an hour, when it may be taken out and put in the air. After boiling for about an hour the madder should be taken out, on a sieve or cloth, and boiling water poured on it till all the coloring matter goes into the kettle, your matter may then be thrown away, and the kettle put over a brisk fire, until one third of the tea has evaporated. The yarn may then be put in, and the alum water added. After lyeing about an hour, the yarn should be taken out and hung in the air, and the tea concentrated by boiling. The yarn may then be put in again for an hour, and again exposed to the air; so on alternately, half an hour in the air, and an hour in the dye, till it has been immersed four times; concentrating the tea by boiling each time the yarn is taken out.

By this process a bright and standing red will be produced.

Sept. 20, 1831. CARLO.

FOR THE NEW-YORK FARMER.

To Color Black.

MR. EDITOR—Few parts of Domestic Economy are more deficient than the art of coloring; I therefore propose to give some directions.

To color black, say for ten pound of yarn, take one pound of nut-galls in coarse powder, five pounds of logwood, put in to a kettle with 10 or 12 gallons of water. Take 3 lbs. of Copperas, 2 ozs. of Blue Vitriol dissolved in a gallon or two of water, and wet the yarn in this mordant for half an hour, then hang it in the air. After the coloring stuff has been boiled about an hour, take out the wood and pour on hot water, letting it drain into the kettle through a sieve or cloth. As soon as all the coloring matter is exhausted, the wood may be thrown away, and the tea boiled down about one third. Then the yarn may be put in, while the tea is hot, and let it remain about one hour, when it should be taken out, and hung for half an hour in the air, and the tea boiled down again, and the yarn put in for half an hour longer, taken out and hung in the air, and so alternately put in and taken out several times, and the copperas and vitrol water added to the coloring stuff. By this process a standing black may be obtained.

Sept. 20, 1832. Yours, &c. CARLO.

GRAPE JELLY.—*Mr. Homespun*—As many in this city, at present, feel timed about eating their grapes, and some, I am told, have thrown them away; please inform your readers that grapes make a fine *Jelly* by using the following directions:—

Strip, wash, and bruise your grapes, then let them remain in the kettle over the fire till they simmer; strain the juice through a coarse cloth, to a pint of which add a pound of sugar; this mixture boiled slowly over the fire produces a good jelly: and while on the subject of recipes, the annexed will make a catsup little inferior to mushroom. Your's,

New-York, October 6, 1832. A. W.

TOMATOE CATSUP.—One pint of salt to one peck of tomatoes; bruise them and let them stand two days; after they are strained, boil them until the scum stops raising; add two ounces of black pepper, two ounces of allspice, one ounce of ginger, one ounce of cloves, half an ounce of mace.—*Amer. Ploughboy.*

FILTERING STONES.—We have now in use one of the filtering stones recently imported from Port Mahon, and though it is constantly passing rain-water from our cistern, which is rendered as pure in color or taste as any spring-water, and none so wholesome. We use it on our table, in our chambers, &c. one of them affording enough for all family purposes. These stones may be had of the Messrs. Morton's, 153 Maiden Lane. Those who may purchase must not use them until water has passed constantly through the pores four or five days, by which no thickness or bad taste will be discovered in the water.—*N. Y. Gaz.*

Transgressions.—He that wantonly transgresseth the self-evident rules of health, is guilty of a degree of self-murder; and a habitual perseverance therein is direct suicide, and consequently one of the greatest crimes he can commit against the Author of his being, since it is slighting and despising the noblest gift bestowed upon him.

MISCELLANEOUS.

FOR THE NEW-YORK FARMER.

Impolicy of Rearing Dogs.

MR. EDITOR—I have repeatedly seen short notices in the newspapers of your city within the last two years, instructing me that the authority of the city had found it necessary to adopt measures to discourage the growing and keeping of dogs in the metropolis, and that those measures were offensive to some of your inhabitants. These facts awakened thought upon the subject of *dog-growing* in our nation, its impolicy and often injustice; and as the writer of this article has no interest in the isolated question, as it has existed in your city, not living within the state, or within the middle states, he hopes to be heard with candor, while he exhibits a few facts for the consideration of the public.

It is now generally admitted that there are 13,000,000 of inhabitants within these United States, and not less than 2,600,000 families. We shall probably fall short of the full number of the canine race within these states, when we estimate them at half the number of families, making them 1,300,000. They may not stand in this proportion in our cities and older towns upon the sea board, but including the North, the South, and the great West, they will fully equal this estimate. We will lay the average expense of board for each dog per day at *one cent* and eight mills. This certainly will not be considered an over estimate, when it is recollected, that the same food which is consumed by the dog, would, if given to the swine, contribute to the riches of the larder. The annual expense of board for dogs, then, amounts to the enormous sum of 8,541,000 dollars. But we are all sensible, that there are other items to be taken into the account in order to a full exhibition of this case. It requires much time, care, and labour to rear a pup, and teach him the services, which will be required of him, and when he is grown and qualified for service, then he becomes the occasion of much loss of time with the multitudes who follow him in the chase; and looking to the South and the West, we add the wear and tear of horse-flesh, of shoe-leather and clothing. These expenses will certainly average one dollar to each dog annually, making 1,300 000 dollars. And yet we are to meet the bill exhibiting the heavy losses sustained annually among our horses, cattle, sheep and swine, on account of the rabid bite of the dog; another bill for the losses among sheep from dogs, that are impelled to deeds of violence by hunger, or a love of rapine; another containing charges for broken carriages, broken limbs, and the fees of surgeons and physicians, all originating in the affright of horses, when suddenly accosted by a furious cur, or mastiff, springing from a heathenish habitation, and threatening to devour the peaceful passenger. We say *heathenish* habitation, because no man having a claim to the honourable distinction of being *civilized* will retain such an animal under his roof, or in any way contribute to his existence! There is one other item to be added to these several bills—it is the expense of metalic collars, brass, copper or silver, with their locks, and engravings, which are worn by thousands of dogs in the nation, by those in cities especially; and when we have included all these bills, they will levy a tax of 33 cents upon each dog annually—making 429,000 dollars. And these several sums exhibit an aggregate of 10,270,000 dollars, expended annually upon dogs in the United States! a total from which we shall shrink back with surprise, and a kind of instinctive dread! and we begin to inquire, is there no mistake? No error in the data? Gentle reader, the estimates are all before you. Reduce the amount of expenditure if you honestly can; but I am full in the conviction, that when you have investigated the subject, you will rise from it, convinced that the *total* above named is the least possible amount by which the dogs in these states can be supported for a single year. And this will show us that our *dog*-tax annually amounts to about the same as the whole expenses of the Federal Government in 1821, exclusive of the public debt. That it amounts to about *nineteen* times the sum of all that is contributed by the nation to the leading benevolent objects of the day; *four* times as much as is contributed by England and America, and more than *twice* the amount of all that is contributed for those objects in christendom. In ten years it would construct Rail-Roads and lay open Canals to as great an extent as the interests of the nation would ever require, from New-Orleans to Maine. In fifteen years it would build a Navy which all the present ships of war in the world could not resist; and in less than twenty years, it would enable this nation to put a full copy of the Scriptures, gratuitously, into every family on this earth! And in view of this annual expenditure, we are impelled to make the inquiry, what remuneration does this nation receive from the whole canine family? We do not pretend to say there are not some advantages derived from dogs by individuals. They are sometimes of use in stores, factories, tanneries, and are convenient in frontier settlements. We have a thousand pleasing anecdotes to relate of their sagacity and their fidelity in their master's service. Some human lives have been preserved through the vigilance and efforts of dogs. This last consideration would do more to vindicate the practice of dog keeping than any other, were it not, that it is more than counterbalanced by five to one, in the deaths of our fellow creatures by hydrophobia, a death made terrible to the victim more than all other deaths, and that which in a special degree, wrings all the sensibilities of surviving friends. The question returns then, what compensation does the community, or does an individual receive for the existence of one single dog in a thousand? We frankly confess our full conviction, that in 999 times in 1000, the existence of dogs is a dead loss to all concerned; and that the dogs in this nation are defaulters to the public in the sum of 1,000,000 of dollars a year. Thus much I have felt it my duty to say upon the *impolicy* of supporting dogs to the extent they are supported in this nation. I shall now say something upon its *frequent injustice*. It is always unjust to the Great Giver of all our mercies, when we take the bounty at his hand and squander it, or apply it to no valuable purpose. God, it is true, gave existence to the canine race, and in common with all other irrational tribes, they are given to man to promote his happiness and usefulness; but beyond these, he has no right to multiply the number of dogs, nor to draw upon the storehouse of a beneficent Providence for rations to supply a host of irrational supernumaries. This evil appears the greater, since there are millions of the human family suffering for the portions thrown to the dogs, and God's commands are not complied with in behalf of the poor, because the dogs have pre-occupied the ground

in the affections and charities of their masters. Injustice is often done to our *neighbour* by the keeping useless dogs. By what principle can I be justified in keeping an animal, which is in no sense necessary to my support or comfort, but which is a constant annoyance to my neighbour? which howls around his house and out-buildings, and bears away whatever chance may have left exposed to his voracious appetite? an animal that accosts him with fury every time he passes my habitation, frightens his horse and terrifies his children, and now and then steals into his pasture by night, and devours a few lambs or sheep? And above all, am I justified in exposing my neighbour, or one of his family, to the rabid bite of such an animal? Should I be willing that my neighbour should deal out to me the same measure? If not, the question is settled, and the injustice of this course is most manifest. A *father* often injures his family even more than he does his neighbour by keeping one or more hounds, while his children are in want of the portion that falls to the dogs. These you may say, are extreme cases. I admit it; but they do exist, and illustrate a thousand minor evils, which in human society perform the office of the *little foxes which spoil the vines.* Now, in view of what has been exhibited, I would make an appeal to the conscience of every owner of a dog in this nation, and say to him in all good feeling, is this animal so important to your usefulness and happiness, that you are justified in bestowing upon it so much of your time, and in appropriating so many of the bounties of Providence to its support? Are there no higher claims upon your charities uncancelled, and do you believe that you are making the best use of life and its blessings? Have you no fellow-beings within your knowledge, whose necessities you could relieve, and whose hearts you could make to rejoice by bestowing upon them the *half* it costs you to support that irrational being a single year? Remember the immense sacrifice—10,000,000 a year in this nation, and remember, too, thou art an accountable being! H. H.

St. Paul's Cathedral.

The chief ecclesiastical ornament of London is the Cathedral Church of St. Paul, which stands in the centre of the metropolis, on an eminence rising from the valley of the Fleet. The body of the church is in the form of a cross. Over the space where the lines of that figure intersect each other, rises a stately dome, from the top of which springs a lantern adorned with Corinthian columns, and surrounded at its base by a balcony; on the lantern rests a gilded ball, and on that a cross (gilt also) crowning the ornaments of the edifice. The length of the church, including the portico, is 510 feet; the breadth 282; the height on the top of the cross 404; the exterior diameter, of the dome 145: and the entire circumference of the building 2,292 feet. A dwarf stone wall, supporting a ballustrade of cast iron, surrounds the church, and separates a large area, which is properly the church-yard, from a spacious carriage and foot-way on the south side, and a foot pavement on the north.

The dimensions of this cathedral are great; but the grandeur of the design, and the beauty and elegance of its proportions, more justly rank it among the noblest edifices of the modern world. It is adorned with three porticos; one at the principal entrance, facing the west, and running parallel with the opening of Ludgate street; and the other two facing the north and south, at the extremities of the cross aisle, and corresponding in their architecture. The western portico combines as much grace and magnificence as any specimen of the kind in the world. It consists of twelve lofty Corinthian columns below, and eight composite above, supporting a grand pediment; the whole resting on an elevated base, the ascent to which is by a flight of twenty-two square steps of black marble, running the entire length of the portico. The portico at the northern entrance consists of a dome, supported by six Corinthian columns, with an ascent of twelve circular steps, of black marble. The southern portico is similar, except that the ascent consists of twenty-five steps, the ground on that side being lower.

The great dome is ornamented with thirty-two columns below, and a range of pilasters above. At the eastern extremity of the church, is a circular projection, forming a recess within for the communion table. The walls are wrought in rustic, and strengthened and ornamented by two rows of coupled pilasters, one above the other, the lower being Corinthian, and the other composite. The northern and southern sides have an air of uncommon elegance. The corners of the western front are crowned with turrets of an airy and light form.

To relieve the heavy style of the interior, statues and monuments have been erected to the memory of great men. The statues are plain full-lengh figures, standing on marble pedestals, with appropriate inscriptions, in honour of Dr. Samuel Johnson, the benevolent Howard, and Sir William Jones, of Asiatic celebrity. Several of the monuments would disgrace the most barbarous age, and ought to be removed. The tomb of the great Nelson is beneath the pavement immediately under the dome.

The two turrets on the right and left of the west front are each two hundred and eight feet in height. In one on the southern side is the great clock, the bell of which, weighing 11,474 pounds, and 10 feet in diameter, may be heard in the most distant part of London, when the wind blows towards that quarter. The entire pavement, up to the altar, is of marble, chiefly consisting of square slabs, alternately black and white, and is very justly admired. The floor round the communion table is of the same kind of marble, mingled with porphyry. The communion table has no other beauty; for, though it is ornamented with four fluted pilasters, which are very noble in their form, they are merely painted and veined with gold, in imitation of lapis lazula. Eight Corinthian columns of blue and white marble, of exquisite beauty, support the organ gallery. The stalls in the choir are beautifully carved, and the other ornaments are of equal workmanship.

This Cathedral was built at the national expence, and cost 736,752*l.* The iron ballustrade on the wall surrounding the space that is properly the church-yard, which, with this immense edifice was reared in 35 years, the first stone being laid on the 21st of June, 1675, and the building completed in 1710, exclusive of some of the decorations, which were not finished till 1723. The highest stone of the lantern was laid on by Mr. Christopher Wren, son of the architect in 1710. It was built by one architect, Sir *Christopher Wren*, by one mason, Mr. *Strong;* and while one prelate, Dr. *Henry Compton*, filled the see of London.

The dimensions of St. Paul's, from east to west, within the walls, are 510 feet; from north to south, within the doors of the porticoes, 282; the breadth of the west entrance, 100; its circuit, 2292; its height, within, from the centre of the floor to the cross, 340 feet. The circumference of the dome is 430 feet; the diameter of the ball, 6; from the ball to the top of the cross, 30; and the diameter of the columns of the porticoes, 4 feet. The height to the top of the west pediment, under the figure of St. Paul, is 120 feet; and that of the tower of the west front, 287.

From the bottom of the whispering gallery are 280 steps; including those to the golden gallery, 534, and to the ball, in all, 616 steps. The weight of the ball is 5600 pounds.—The weight of the cross is 3360.—The extent of the ground whereon this Cathedral stands, is two acres 16 perches. The length of the hour figures 2 feet 2½ inches; the circumference of the dial is 57 feet.

The *whispering Gallery* is a very great curiosity.—It is 140 yards in circumference. A stone seat runs round the gallery along the foot of the wall. On the side directly opposite the door by which the visitor enters, several yards of the seat are covered with matting, on which the visitor being seated, the man who shews the gallery whispers, with the mouth close to the wall, near the door, at the distance of 140 feet from the visitor, who hears his words in a loud voice, seemingly at his ear. The mere shutting of the door produces a sound to those on the opposite seat like violent claps of thunder. The effect is not so perfect if the visitors sits dowu half way between the door and the matted seat, and still less so if he stands near the man who speaks, but on the other side of the door.

The marble pavement of the church is extremely beautiful, seen from this gallery. The paintings on the inner side of the dome, by Sir James Thornhill, are viewed with most advantage here. The ascent to the Ball is attended with some difficulty, and is encountered by few, yet both the Ball and passage to it well deserve the labour. The diameter of the interior of the Ball is six feet two inches, and twelve persons may sit within it.

The prospect from every part of the ascent to the top of St Paul's, wherever an opening presents itself, is extremely curious. The effect is most complete from the gallery surrounding the foot of the lantern. The metropolis, from that spot, has a mimic appearance, like the objects in a *fantoccino*. The streets, the pavements, the carriages, and foot-passengers, have all the appearance of fairy ground and fairy objects. The spectator, contemplating the bustle of the diminutive throng below, is moved a little out of the sphere of his usual sympathy with them; and, as if they were emmets, asks himself involuntarily "about what are those little, inconsequential animals engaged?"

The form of the metropolis, and the adjacent country, is most perfectly seen from the gallery at the foot of the lantern, on a bright summer day. The ascent to this gallery is by 534 steps, of which 260, nearest the bottom, are extremely easy; those above difficult, and in some parts dark and unpleasant. In the ascent to his gallery may be seen the brick cone that supports the lantern, with its ball and cross; the outer dome being turned on the outside of the cone, and the inner dome turned on the inside. The entire contrivance to produce the effect within the church, and on the outside intended by the architect, is extremly fine, even marvellous. From the pavement of the church, the interior appears one uninterrupted dome to the upper extremity; but it consists, in fact, of two parts, the lower and principal dome having a large circular aperture at its top, through which is seen a small dome, that appears part of the great and lower dome, although entirely separated from it, being turned also within the cone, but considerably above it. —*Clarke's Wonders.*

Manufacture of Paper.

The instrument used in this case is common, simple and efficacious. It is composed of three brass rings or hoops, pierced with a number of holes in their flat sides, to receive as many rods of wood, which make the three rings into a sort of drum. The rings have spokes or radii, uniting in a centre nut of iron, which forms the busk of a spindle or axis, on which the drum is to revolve. This drum being covered with wire cloth, and made to work in the pulp-cutting machine, becomes by name and profession a strainer—and in character an improved strainer. It is connected with a pipe which carries off the dirty water; its motion is rapid, and the meshes of its wire-cloth cover are small, so that the lesser qualities of the pulp-wheel, which hitherto have been apt to slip away with the dirty water, to the great injury of the paper-maker, and for the peculiar property of the rag-merchant, are now saved from their sudden exit, and promise to become *stationary* as the well-regulated material of the paper manufacturer ought to be. We are quite sure that no difficulty will be experienced in the perfect comprehension of this plan. The old strainer works away in the machine at the same time with the new one, but not on the same spindle. The consequence is, that the pulp is forced by the action of the old strainer in the direction of the tumbril we have described, and by that sent back again to the old strainer, so that between them, the pulp is kept in rapid circulation and continuous action.

The above invention improves the preparation of pulp; another is intended to improve the paper. The machine of many rollers, with the endless wire-cloth, is well known to paper manufacturers; and equally well known and appreciated are the barrels and winders on which the paper is received and coiled. Now, the present invention lies between those instruments. The object of the inventor (Mr. Joquier) is to make any length of wire-wove paper with longitudinal wire marks, both sides alike, and without transverse bars or water-marks.

The machine in common use, the rollers, the wire-cloth, &c. are to be maintained as at present, and the vibration of the machine which causes the even spread of the pulp, and the equal substance of the paper, is as essential as ever: but when the paper quits the wire-cloth, and the long series of equi-distant rollers over which it has been taken and shaken, the inventor purposes to receive it on an endless blanket, or felt, of unequal fineness, in order to strain it and gloss it, and prevent the transverse bars which are caused by the reception of the paper on to the hand-frame. His apparatus is chiefly this endless felt cloth, and the rollers or cylinders over which it moves, and between which it is pressed. There are three in addition to the usual series; they are of much greater diameter

and power, and are every way calculated to improve the surface of the paper. A brush is ingeniously applied to the cloth, so as to brush out any unnecessary remains of water, and to clear away any remnants of pulp, or any other obstruction. The brush, as well as all the machinery, revolves by the endless chain running round a large cylinder near the Primum Mobile. The paper, often passing overe these cylinders, conducted by this cloth, and having suffered all these brushings, and bruisings, and washings, and wipings, is received as if from the hand-frame, and carried forward to the roller, round which it is wound up as usual.—*New Monthly Magazine.*

Rural Statistics of Cuba.

Among the deferred articles which have been lying on our table, is the following interesting notice of a History of Cuba, by Ramon de la Sagra, translated and read before the New York Horticultural Society, by Felix Pascalis, M. D. We have not space for the whole report, and consequently give that which most relates to rural affairs.—Ed.

The history of the wealth, power, and importance of the island of Great Britain, gives force to the comparison made by the historian of the Indies, when he likens the island of Cuba to a kingdom. The latter also has an extension from West to East, in the Western Atlantic—equal to that of the former from North to South in the waters of the eastern hemisphere. Is not such an island—its vicinity being taken into consideration—of more importance to us than the British Isles ever was, at any period of history, to Europe?

The Baron de Humboldt, when terminating his travels to South America, visited and explored the island of Cuba, with his faithful botanical companion, Bompland; and from them the scientific world first learned the richness and importance of that comparatively vast region.

We find from the work of Don Ramon, that the population of this island consisted in the year 1829, of 311,050 white inhabitants, 704,487 black and mustees; in all 1,015,537 souls.

Adverting to the white population of this island, the author informs us that it has always been the practice of the Spanish government to encourage colonists and new settlers by all possible advantages and privileges, such as concessions of lands, exemption from tythes, personal and state taxes, duties on produce, &c. for a long series of years, even as far as the prospective data of 1845. The rights of naturalization are also granted with many other civil advantages after five years of residence, in agricultural industry, which puts the new settler upon a footing with any other citizen or subject of His Catholic Majesty.

It almost appears incomprehensible, that with such liberal provisions, the population of Cuba should not be greater than it is, while Great Britain alone, within her shore, shall contain more than 14,000,000 of inhabitants.

The subject of rural industry and agriculture, is the next most interesting treated of by our author. In the first place, he explains fairly to his reader, how and why the progress of agriculture has been retarded and neglected in the island of Cuba for more than a century. As far back as 1578, when the first concessions of land were made by the Sovereign, they were executed on a wrong principle of mensuration. The mode of triangulation had not yet been introduced there; lands were apportioned and regulated from a given centre to a circular or polygon line of one or two leages in radius. Of course this adjudication was very liable to produce errors and mistakes about the rights of landholders—no matter what might be the justice of their claim, in their three miles or six miles radius of possessions. Spaces and intervals, and sometimes extensive forests, would be left between the circular or polygon lines of these divisions, which from day to day, produced interminable quarrels between the proprietors, who naturally, and perhaps justly, encroached upon their neighbors and other occupants, which disputes could finally only be settled by the Supreme Council at Madrid. This difficulty from generation to generation has retarded cultivation, and, after a lapse of years, has insensibly led the owners of the soil into two sorts of employment, and settled a divisiou of the country into two kinds of estates, the one for the rising of cattle on waste lands and forests, called Hacienda de crianza; and farms, or plantations of coffee and sugar, called Sitios de labor or estancias. Certain labors have there been taken, therefore, a proper and distinct plan and scope, commensurate with the extent and fertility of the localities. To prove their value, we subjoin a general and authentic statement of the produce, animal and vegetable, collected by the author, from authentic records; vide p. 125.

Vegetable Produets.

Sugar, clayed or brown	$8,091,827
Do Muscovado	40,772
Rum, coarse	526,545
Molasses	502,932
Coffee	4,325,292
Cocoa	74,390
Cotton	125,000
Tobacco	681,240
Cassava or Manioc	146,144
Rice	434,230
Peas, Beans and Onions	286,257
Indian Corn	5,853,418
Meats and Vegetables	11,476,812
Greens and Grass	5,856,616
Charcoal	2,107,300
Timber and Wood	1,711,195
	$40,520,677

Animal Products.

Cattle, Hides, Hogs, Colts, Poultry, Eggs, Milk, Wax, and Honey	9,023,110
	$49,643,993

It should be remarked that the items of the foregoing statement have been obtained from public records of exportation, or of entry or market duties. It is reasonable to conclude that an equal amouut of animal and vegetable produce remains in the island for the consumption of the inhabitants; to ascertain the value of this we will allow as the average share of each individual the proportion of $50 per annum.

Population	1,015,538
Average consumption of individuals	$50
Total consumption	$50,776,590

Add to this the produce exported	49,643,993
And the total yearly produce of Cuba will be	$100,420,583

We have been thus particular, to show the almost incredible amount of the rural industry of the island; the sum of it is great, for although the lands are extensive which yield this return, yet the population is, after all but little more than a million.

We come now to the article of commerce, which is important in all its connections and bearings, because the island is in our neighbourhood; and its government has always been friendly to the United States, which, in their turn, have no doubt much contributed to the prosperity of that dominion; and because neither the political systems, religion, or manners of the colonists are embittered to us by jealousies or antipathies. It is the interest therefore of our merchants, manufacturers, farmers, and adventurers to see the balance correctly struck of the different productions interchanged by both; which trade, under a correct American system, will not only benefit us by its tonnage, but make an additional market for the future demands of our manufacturers.

The colonists of Cuba keep up a brisk commerce with the United States, with France, England, the Low Countries, Denmark, Germany, Italy and Portugal. Let us now compare the extent of the commerce of the colony with that of its mother country Spain, and that with the United States:

Imports for the last five years from the U. S. to Cuba	$2,789,830
Exports from the U. States	1,424,045
Imports from Spain, during the same time	275,604
Exports to Spain	226,504

We do not think it necessary to subjoin the amount of commercial interchange between Cuba and other nations.

A few more remarks may be given, to substantiate the importance of our trade with Cuba. It is well to mention, that, in nine years from 1821, we have received, for our exports to Cuba, for salt fish, sperm oil, salt beef, pork, hams, bacon, butter, lard, flour and tallow, a return of 60 millions of dollars and upwards! (vide p. 206.)

Unless we are much mistaken, our farmers and merchants must be struck with this grand total, of a market taking annually more than $6,000,000 of our produce.

After these observations of general interest, we shall take up the subject of agriculture in a light more congenial to the labors and objects which the Horticultural Society have in view, and desire to promote.

The principal staple products of Cuba are—Sugar Cane (*saccharine officinarum,*)—Coffee, *coffaea arabica,*)—Cotton, (*gossypium herbaceum,*)—Tobacco, (*nicotiana tomentosa,*)—Rice, (*oryza sativa,*)—Cassava, or Manioc, (*yatropha manihot,*)—Maize, or Indian Corn, (*zea maiz,*)—Indigo, (*indigofera tinctoria,*)—Cacao, or Cocoa, (*theobroma cacao.*)

Among these, Wheat, *frumentum triticum*) would find a place, were it not that it can be procured from northern regions at so cheap a rate, that the land is of preference devoted to other crops.

RAMON DE LA SAGRA has not thought proper to embody the subject of Botany under any of its own scientific nomenclatures. We therefore follow his own divisions of plants, such as he thought best adapted to a commercial point of view; and shall consider his classes as arranged on his own method; but can only give a very abridged sketch or summary of the various specimens enumerated under each:

1st Class—CEREALIA.

Zea maiz
Oryza sativa
Triticum estivum

2nd Class—FARINACEOUS KINDS.

In this he ranks nutritious roots, and fruits for culinary purposes; such as all kinds of ***Musa***, or plaintain tree; the Banana; the ***Helianthus;*** the Yam, or ***Dioscorea;*** the ***Artocarpus***, or Bread Fruit. This class is a branch of the first.

3rd Class—ALIMENTARY SEEDS.

In this we have of course all kinds of beans and peas; and furthermore, the ***Sesamum Orientalis***, the ***Dolichos***, the ***Cicers***, the ***Arachis***, the ***Hibiscus sueculentus***, and other interesting plants. But we regret not to find the ***Ervum lens***, the lentil, one of the best and most delicate of alimentary seeds, and which we know is cultivated in other ancient colonies of Spain

4th Class—LEGUMINOUS ESCULENTS.

Thirteen valuable sorts are mentioned; five species of ***Brassica***, or Cabbage; the ***Scorzonera***, the Asparagus, Radishes, Tomatoes, ***Solanum***, &c.; the Parsnip, ***pastinrea sativa*** is not mentioned—no doubt an omission.

5th Class—SALADS AND SAUCES.

This is composed of 32 individuals and flatters every taste; from the ***Oxalis*** or sorrel, to the ***allium; apium, sinapis, corianthum, mentha***—there is here an exuberance for every epicure.

6th Class—FRUITS.

These could not be one more abundant or varied; there are no less than fifty sorts enumerated from the Hesperian fruit of the ***Citrus***, to those of the ***Persea gratissima***, the ***Punica granatum:*** all of the ***Diospyros***, the ***Passiflora***, the ***Mammaea.*** Whatever fruits that quench the thirst or flatter the senses, by aromatic flavor, by delicate savors, or brilliant collors, or pungent aromatics, are found in magnificent profusion in the island Cuba.

7th Class—PLANTS USED IN THE ARTS AND MANUFACTURES.

The preceding classes appertained to commerce, from their being necessary for the support of life and sustenance of the inhabitants. But there are others which supply the Arts and Manufactures with the tanning ingredient, oils, colors, cordage, or tissue, for clothing or matting, and of these, more than one hundred are enumerated.

"Let cultivators introduce into their natural grounds a portion of Gramina, or Carex, of the sorts ***Panicum sativum***, the ***Paspalum***, the ***Oplismenus***, &c. which are all confounded under the name of Carex. I have often seen cattle thrive upon the ***Convolvolus***, the ***Desdemodium***, the ***Rhyncosia minima***, the ***Lagusca mollis***, &c.

The last point to which I would particularly summon the attention of the New York Horticultural

Society, is that of the forests and woods, which the author has seen wantonly burned or destroyed.

Timber was exported from Havana in 1829, to the value of	$155,563
The home consumption must be ten times as great	1,155,563
The charcoal already mentioned as sold, being added	2,107,390
The forests afford a revenue therefore of	3,818,416

It is well known that the mountainous parts of Cuba produce a great variety of forest trees, and no doubt excellent for different uses. Trees between the tropic and equator are generally of hard wood, highly resinous, and the most durable for construction.

For the mutual advantage of the islanders of Cuba and the people of this country, it would be desirable that under the auspieces of this Horticultural Society, and of the Director of the Royal Patriotic Garden of Havana, a correct catalogue might be framed of all the precious woods found in the forests *del monte*, whether medicinal or for dyes, or for ornamental furniture. This catalogue should be arranged to show, firstly, the botanical specifications; secondly, the nature and color of the grain of the wood, and its susceptibility to polish; thirdly, the habits of the trees, and whether the timber of the same be attainable for commerce and construction, and its probable price and duration.

A new branch of produce and commerce would be forthwith introduced into Havana; and the Americans would not be the last to assist to its extension and value.

Though the Cuban Botany of this writer is correct and perspicuous, we find or suspect omissions in each of his classes save the fifth. We do not insist upon any of these omissions except two, which are madera del monte certainly to be found in Cuba; the one the mahogany suitenia, and the manchineal, *hippomane mancinella*. This tree, poisonous in its sap, and accused of throwing a deleterious shade, was extirpated in the island of St. Domingo; but the wood, pale green, with a satiny glance, is of the highest value for veneering, and is now become very scarce.

FELIX PASCALIS.
Hon'y M. of the N. H. Soc'y.
M. of the Royal Patriotic Society of Havana, &c.

Pastoral Poetry.

The sentiments advanced by the writer of the following article, against the introduction of ancient mythology into modern pastoral poetry, are certainly correct, except it be for comparison.—*Ed.*

Though pastoral be a species of poetry more frequently attempted than almost any other, it may perhaps be said, that it has been attempted with successful as rarely as any. The author of the following lines even thinks he never met with any poem of that kind, which completely answered his ideas of what pastoral ought to be. It would be presumption in him, however, he acknowledges, to question the merits of Theocritus among the Greeks, and of Virgil among the Latins, in this kind of composition; or to deny that we have many beautiful poems in this way in our own language, while the elegant verse of Pope is known, and our language itself does not appear like to survive it. But if what Pope says upon the subject be true, then an air of piety should shine through the whole composition, we must acknowledge, that the far greater part of those poems which bear the name of pastoral, are defective in a very essential article. It is true the two eminent poets of antiquity already mentioned, have frequent allusions to the religion of their times; but as that religion is known by us to have no foundation in truth, and to be rather impiety than religion: though their compositions might appear to their contemporaries perfect and complete in their kind, being really conformable to the opinions and belief then prevailing; yet there must seem in them to our minds, which are imbued with very different notions of religion, a great deficiency; a want of what the authors themselves thought an essential requisite, the air of true piety. But this mythology which was an accomplishment of pastoral in the poets of antiquity; because it answered to the real creed of those who were to read it, or hear it sung; will not at all answer the same purpose in our times. Mythology, adapted to modern subjects, seems to produce the same sort of dissatisfaction in the mind, as a Gothic front, resembling an old Church, when plastered on the end of a barn or dog-kennel, is found to produce in minds of a just and correct taste.

The Guardian having with great reluctance given up the mythology of the ancients in pastoral, thinks, however, a substitute absolutely necessary; and in this we must all agree with him: though not quite so in the choice of his substitute. He is for having recourse to the fancied beings of a wild and rustic superstition; fairies, hobgoblins, and witches. But the same reason, nearly, which would exclude the heathen mythology, would militate against these creatures of superstition, and if superstition have a place in the minds of our rustics, it is certainly a deformity in their characters. But it is generally agreed, that every deformity, at least every gross deformtiy of the rustic character, should be carefully concealed, and only the fair side exposed to view: in the same manner as to make an agreeable and pleasant country seat, every object, disgusting and disagreeable to the sight, should be studiously removed out of the way; and only such views as are pleasing should be permitted to the eyes.

We believe that, besides the supreme Being, who created us, and is the sovereign Lord and Ruler of the universe, there are other spiritual beings, both adverse and friendly, that take an interest in what we do and what befalls us. Why may not these be introduced, being a part of our real theology? For nothing but real theology can fully supply the place with us of the mythology of the ancients. The Pagan divinities, when considered no more than the passions personified, may come with propriety into the higher classes of poetry, even among Christians; but can scarcely be introduced with any sort of propriety into pastoral, where simplicity is one of the first qualities required. From what has been said it will follow, that Pope's pastorals, though models of happy numbers and harmonious versification, are nevertheless defective. Not one ray of that piety which he requires in his dissertation upon pastoral, appears in any of his four. His Messiah can scarcely be called a pastoral.

Gay, though natural, makes his swains too gross

There is not enough of the golden age in them. They are much too coarse to be pleasing

Some have thought that rusticity of speech was necessary to speaking. But if the language of our rustics be different from correct and grammatical conversation, it is a defect in them, it is deformity. Much more are those coarse and indecent thoughts to be avoided in pastoral, as real deformities; though many writers in this kind have given admittance to them; because, forsooth, such things are sometimes said by rustics. But it is not every thing that is fit to be put in their mouths in pastoral: such should be selected as are suitable. Now pastoral, it is generally agreed, should represent country life, led in happiness and innocence. Indecency is inconsisent with happiness. A purity of taste, though united with much simplicity, is scarcely separable from happiness. If an admiration of antiquity has induced the greater part of pastoral writers to admit the theology of the heathens, why should not the same passion convey them up still higher, to the times of the patriarchs? Their way of life was the very source and principle of pastoral. The eyes being constantly upon the admirable and pleasing productions of nature, and the mind vacant of all those trifling vanities with which it is perpetually filled in our more busy, and, as it is styled, more polished state of society, rose by a very natural progression from the contemplation of those natural productions, to the contemplation of their author; and when a man found himself happy in the enjoyment of those simple productions of nature, he gave way to the natural feelings of gratitude, without busying his mind in the pursuit of superfluities, and sung hymns of praise and thanksgiving. In the hope that the following lines may draw out something more perfect from some other quarter, they are ventured with all the defects to meet the public eye; more on account of their plan, than the poetry.

A PASTORAL.

Spring Morning.

Now grey-eyed morn peep'd thro' the eastern sky,
The lark had raised his matin voice on high;
Brisk as the breeze, fair Lucy left her bed,
And forth her father's fleecy fortunes led.
Like care, from out a neighbouring vale's retreat,
From balmy slumbers, leads Maria's feet;
Just as of all the glorious starry host
The latest twinklings going out were lost,
Each winding round the mountain's dewy base,
To the same spot their steps unwitting trace;
Were seats beneath the beech's spreading shade,
For friendly converse and repose were made.
Each vale here opens to admiring eyes;
Here each the other's village first descries,
Mark'd by the decent spire that peeps above
The blooming fruit tree's wide encircling grove.
First greetings made, each virgin takes a seat,
Their crooks and faithful dogs laid at their feet;
Both blest with beauty by the heav'nly king,
And as the year in their first bloom of spring;
And as the glorious rising orb of day,
The mountain's side gilt with a milder ray,
So did in both from faultless features shine,
With sweet effulgence, innocence divine.
Then Lucia thus: Obsequious, see, to God
How springs the tender grass with flowers bestrew'd,
Food for our flocks, thro' them of our support,
Of plenty and delight the rich resort.
The beauteous scene proclaims its author's praise;
Alone shall we withhold our grateful lays?

MARIA.

From every hawthorn bush, now sprinkled o'er
With fragrant bloom, hark how the warblers pour
Their charming melody: and thus display
The glory of their Maker as they may.
Alone shall we, with nobler powers endow'd,
In silence prove how ill they are bestow'd?

LUCIA.

Sing, then, Maria; for, if fame say true,
Superior song these confines never knew.
This lyre with humble effort shall essay
To join in concert with the pious lay.
If chance our flocks too near each other move,
Trusty shall drive mine back to yonder grove.

MARIA.

Well, of ingratitude to 'scape the note,
I'll sing what late our honour'd pastor taught.
Long in our village has he till'd a soil,
Hard, not ungrateful to his steady toil;
In rustic minds to root out various weeds,
And raise with skilful culture virtuous seeds.
'Fore God when in the holy place he stands,
Respect from all, his grave comport commands;
In common intercourse, such is his ease
Of speech and manners, sure he is to please.
To lead to Heav'n his flock is all his care;
For this he toils, he fasts, and sighs in pray'r.
Such grace is given to his words, of course
They fall, where pointed, with resistless force;
But chief our hearts: effectual there they prove,
Where what is loos'd on earth, is loos'd above.
His fondest task to ground our village youth.
In pious sentiments and sacred truth.
This hymn he gave us with endearing smile;
Learn it, he said; you shall not rue your while.

HYMN.

The Lord of day now climbs the sky,
Away night's baleful shadows fly;
So may, O God, thy heav'nly light
Chase from our minds the works of night;
And thro' the dangers of this day,
With faithful guidance, lead our way;
Our words contain in prudent bounds,
Nor heard be discord's jarring sounds:
All worldly vanities disarm
Of their delusive fatal charm:
Tho' fair the flow'r, shew to our fear
The deadly serpent lurking there:
Lop the luxuriancies of pride:
Make temperance at our meals preside;
So may our rebel senses own
Strong reason's golden rule alone:
So may our hearts, unsoil'd, repel
The foul impurities of hell.
And when the day resigns again
These regions to night's sable reign,
Our minds still more may thankful raise
The song of well accepted praise.

LUCIA.

The sweetness of your notes, fair maid, excels
Whatever fame among these mountains tells.
Comparison tho' I may justly fear,
Than infidel I'd rather rash appear.
Take then the lyre, and too a hymn I'll try,
From our good pastor late receiv'd with joy.
Tho' young, already have his virtues won
Th' esteem and love of all to whom he's known.
No family in all our hamlet's round,
But gladdens if he pass their threshold's bound;
Discord, when he arrives, is put to flight;
Old grudges die, and all in peace unite;
Wealth melts to charity: the parting soul
Looks up with hope to realms beyond the pole.
Virtue, in him invariably serene,
With more attractive charms and grace is seen:
Thus her reward in heav'n tho' we believe,
The hundred fold we see her here receive
For crowns above exchang'd the joys of sense;
Secure my father thinks our innocence.
Not so with honour: honour oft, he says,
Of motive weak, is treach'rous, and betrays.

HYMN.

Great father, whose almighty word
Bid nature be, and nature heard;

Whose widom made this sun first rise,
Our earth to light and fertilize;
Then to enjoy the well form'd whole,
Breath'd into man the thinking soul.
In this thy bounty we adore,
And its continuance implore.
Nor while thy gifts our senses share,
Our nobler souls be less thy care;
In darkness left, and durance vile,
Careless of thy approving smile.
From thee we come, to thee we tend,
Our origin and latter end.
O may thy powerful influence
Diffuse thy light thro' every sense;
May our first voices sound thy name,
Thy love our first desires inflame.
Life thus auspiciously begun
With fav'ring grace still carry on.
Till sinking in th' eternal sea,
Eternal day she view in thee.

MARIA.

As Philomel's the feather'd choirs among,
Such, charming Lucia, is your matchless song.

Z.

Statistics of London.

At the present time (1832) London contains nearly 1,500,000 inhabitants. Its circumference is abeut 30 miles, and its area about 20 square miles. It contains 9,000 streets, alleys, lanes, &c. from 170,000 to 200, 000 houses, and 435 churches. The streets are all paved, and lighted by means of coal gas, which is distributed in 200 miles of the main pipe, and communicates with 40,000 lamps. The whole extent of pipe is estimated at 1,200 miles.

The city is principally supplied with water lrom two large cisterns, or basins, each covering five acres, and averaging ten feet deep;—supplying the inhabitants with nearly 30,000,000 gallons a day; at an expense of about a penny for every six hogsheads. About 4,500 vessels are employed in transporting coal for the city.

The principal articles of food consumed annually in this great city, are estimated as follows. Oxen, 160,000; Sheep, 1,500,000; Calves, 21,000; Hogs, 20, 000; Milk, 8,000,000 gallons; Butter, 24,640,000 lbs; Cheese, 29,120,000 lbs; Wheat, 8,000,000 bushels; and Poultry to the value of $356,000; besides game. Fruit and vegetables are estimated at $4,444,000. Fish at about 9,500,000, bushels.

The Post Office in London is a splendid establishment. It is thought that 500,000 letters pass through it weekly; 30,000 have been put in the Office in a single day. Its annual revenue is sbout $6,000,000.

The amount of bank stock capital in London is $64,680,000.

The number of vessels belonging to the port of London is, 2,663 ships, containing 572,835 tons; number of vessels employed in the coasting trade, 17,677; vessels employed in the navigation of the Thames, 3,000 barges, 350 punts and 3,000 wherries; employing 8,000 men. The value of imports and exports are about $450,000,000; and the customs alone more than $70,000,000.

There are in London about 400 elementary day schools, containing about 50,000 pupils, (a small num ber for so large a population). The Sunday schools embrace from 60,000 to 70,000. The number of newspapers is about 60.

There are many excellent hospitals for the sick; five of which alone acco mmodate 2000 patients. The dispensaries relieve 50,000 sick annually.

The police and watch comprise more than 6,000 men, who are chiefly on duty both night and day. Newgate, the principal prison, contains near 1000 criminals.

The number of deaths in a year is not far from 40, 000, or about one in forty of the population. The number a day is over a hundred. In 1700 the usual proportion was one in twenty-five, yearly, so that the health of the city is greatly increased.

This great city contains almost as many inhabitants as the whole of New England.

Beautiful Passages.

The creation of hospitals and infirmaries for the poor is one of the distinguishing ornaments and fruits of Christianity, unknown to the wisdom and humanity of pagan times. Compassionate consideration of the poor formed no part of the lessons of pagan philosophy; its genius was too arrogant and lofty to stoop to the children of want and obscurity. It soared in sublime speculation, wasted its strength in endless subtleties and debates; but, among the rewards to which it aspired, it never thought of "the blessedness of them that considereth of the poor." You might have traversed the Roman empire, in the zenith of its power, from the Euphrates to the Atlantic, without meeting with a single charitable asylum for the sick. Monuments of pride, of ambition, of vindictive wrath, were to be found in abundance; but not one legible record of commiseration for the poor. It was reserved for the religion whose basis is humility, and whose element is devotion, to proclaim with authority, 'Blessed are the merciful, for they shall obtain mercy.'

There are few of us, I trust, who are prepared to regard the privations of poverty alone with indifference; much less when, combined with sickness, its victim is reduced to the last stage of helplessness. When the hands which ministered, not only to their own necessities, but to those of a numerous family, are debilitated with disease, and unnerved with sickness, the most complicated distress must necessarily ensue. Were it not for the ministration of piety, the calamity would be insupportable. In many situations, the earnings of labour are but barely sufficient for the sustenence of life on its lowest terms; no savings can be made; no superfluity be retrenched; and what must be the state of such a family when that labour is suspended by the invasion of disease? But for such asylums as these, the consequences would be too dreadful for human contemplation.

The principles of freedom ought, in a more peculiar manner, to be cherished by Christians, because they alone can secure that liberty of conscience and freedom of inquiry which is essential to the proper discharge of the duties of their profession. A full toleration of religious opinions, and the protection of all parties in their modes of worship, are the natural operations of a free government; and every thing that tends to check or restrain them materially affects the interests of religion. Aware of the force of religious belief over the mind of man, the generous independence it inspires, and of the eagerness with which it is cherished and maintained, it is towards this quarter the arm of despotism first directs its attacks, while through every period the imaginary right of ruling the conscience has been the earliest assumed, and the latest relinquished. Under this conviction, an enlightened Christian, when he turns his attention to politi-

cal occurrences, will rejoice in beholding every advance towards freedom in the government of nations, as it forms, not only a barrier to the encroachments of tyranny, but a security to the diffusion and establishment of truth. A considerable portion of personal freedom may be enjoyed, it is true, under a despotic government, or, in other words, a great part of human actions may be left uncontrolled, but with this an enlightened mind will never rest satisfied, because it is at best but an indulgence flowing from motives of policy or the lenity of the prince, which may be at any time withdrawn by the hand that bestowed it. Upon the same principles, religious toleration may have an accidental and precarious existence, in states whose policy is the most arbitrary; but, in such a situation, it seldom lasts long, and can never rest upon a secure and permanent basis, disappearing for the most part along with those temporary views of interest or policy on which it was founded. The history of every age will attest the truth of this observation.—*Hall.*

Lycidas.

One of the most beautiful minor poems of Milton though slightly obscure in some passages from the use of antiquated phrases, and in one instance strongly imbued with the author's political feelings, is his Monody of Lycidas. This was writen in Milton's 29th year, on the occasion of the untimely death of his friend, Mr. John King, who was drowned in the passage from England to Ireland. The character of the poem is pastoral, it being assumed that the author and his lamented friend were brother shepherds :—

For we were nurst upon the self-same hill;
Fed the same flock by fountain, shade, and rill.
Together both, ere the high lawns appear'd
Under the opening eye-lids of the morn,
We drove a-field, and both together heard
What time the gray-fly winds her sultry horn,
Batt'ning our flocks with the fresh dews of night
Oft till the star that rose, at evening, bright,
Towards Heav'n's descent has slop'd his west'ring wheel"

The complaint of the poet on the shortness of life, and the glowing reply of Phœbus to his lamentation, is one of the finest passages in the whole compass of English verse :—

"Fame is the spur that the clear spirit doth raise
(That last infirmity of noble mind)
To scorn delights, and live laborious days;
But the fair guerdon when we hope to find,
And think to burst out into sudden blaze,
Comes the blind Fury with th' abhorred shears,
And slits the thin spun life. But not the praise,
Phœbus reply'd, and touch'd my trembling ears;
Fame is no plant that grows on mortal soil,
Nor in the glist'ring foil
Set off to th' world, nor in broad rumour lies,
But lives and spreads aloft by those pure eyes,
And perfect witness of all-judging Jove;
As he pronounces lastly on each deed,
Of so much fame in heav'n expect thy meed."

But Milton's soul was nourished with the hope of the Christian, as well as excited with the ambition of the poet;—and thus the monody finely concludes with an eloquent expression of the only real consolation under every such calamity :—

"Weep no more, woful shepherds, weep no more,
For Lycidas your sorrow is not dead,
Sunk though he be beneath the wat'ry floor;
So sinks the day-star in the ocean bed,
And yet anon repairs his drooping head,
And tricks his beams, and with new-spangled ore
Flames in the forehead of the morning sky:
So Lycidas sunk low, but mounted high,
Through the dear might of him that walk'd the waves,
Where other groves and other streams along,
With nectar pure his oozy locks he laves,
And hears the unexpressive nuptial song,
In the blest kingdoms meek of joy and love.
There entertain him all the saints above,
In solemn troops and sweet societies,
That sing, and singing in their glory move,
And wipe the tears for ever from his eyes."

Brown's Gas Vacuum Engine.

On Wednesday, Mr. Brown, the inventor of the Gas Vacuum Engine, exhibited to a select number of persons, on his premises, Eagle Lodge, Old Brompton, three of his gas engines, of different construction and power, with the latest improvements, in full operation.

The principle, or rather the application of the principle, by which this new power is generated, namely, the creation of a vacuum by the ignition of gas in a cylinder, was discovered by Mr. Brown, about seven or eight years ago, and he has been since indefatigably employed in bringing his invention to perfection. An engine, on this principle, has been at work, for the last eighteen months, on the Croydon canal, raising water from the lower to the upper level, and has, it appears, fully answered its design. This engine, which, of course, resembles, in many of its details, a steam-engine, is, however, simple in its construction. It consists of a wrought-iron cylinder standing in the lower level of the canal. To set it at work, water is turned by a cock upon a wheel (regulating the motion and number of strokes per minute,) which opens a valve, and admits a certain quantity of gas, from a pipe connected with the gasometer, into the cylinder, which gas is immediately inflamed by a jet of lighted gas, and expels the air from the cylinder by raising the lid, which instantly closes again. A perforated tube inside the cylinder, fed with water from a pipe outside, gives out the water, cools the cylinder, completes the vacuum, and raises the water in the cylinder to a given height. An atmospheric valve is then opened, and the water rushes out of the discharge valve: this is the result of one stroke.

The Croydon engine is 22 feet high, and 3 feet 6 inches in diameter. An engine, upon the same construction, at Eagle Lodge, is 4 feet 8½ inches in diameter, and its power is surprising. The number of strokes it gives per minute (we timed them) is between 5 and 6; and each stroke raised, with tremendous impetus, 750 gallons of water, filling a cistern of the capacity of five-and-twenty pipes of wine is about three-quarters of a minute!

The expense (or rather the profit) of working these engines is an important property of the invention.—By the accurate calculation of an eminent engineer, it appears that the quantity of small coal consumed last year for the Croydon engine, was 417 chaldrons, which produced 592 chaldrons of coke, and 4,800 gallons of tar. The cost of the coal was 458l. 14s., to which must be added, for attendance on the engine, repairs, an allowance of 7 per cent. on the value of the building, and ground rent, 208l.—making, in all 666l. 14s. The value of the coke and tar was 769l. 12s. Thus, it appears, that this engine constitutes a mechanical power, in effective and constant action, retaining a clear profit of 102l. 18s. per annum, exclusive of what the work may be worth which that power effects. An experiment made previous to our visit, gave from 14 bushels of common coal, 21 bushels of coke, of two qualities, besides the tar, and 2,100 feet of gas.

The very decided superiority of these engines over those moved by steam consists in the

simplicity of their construction, the economy of working, the absence of danger, (for there is nothing in them which can occasion explosion,) and the advantage of their being always ready for immediate action. These recommendations particularly adapt them for raising water, drainage, mill machinery, &c. There is one object which they will accomplish, to which steam is not applicable: in large buildings, or public works, they may be applied to fire-engines of any power, which may be put into instantaneous action by gas supplied from the mains in the street, and any quantity of water may thus be thrown to any height at a moment's notice.

It falls properly within the province of a scientific work to examine critically the details of this invention, which appears to us to be one of the most valuable mechanical improvements discovered since the application of steam to the purpose of a moving power. Mr. Brown must have expanded a vast sum, to say nothing of intellectual wear and tear, in bringing his invention to the test of successful experiment; and we think its palpable advantages must secure to him that reward which is not always the result of ingenuity such as his.—*Times.*

Leather.—A correspondent over the signature of "A Tanner," asks, Why is it, when I put a hide and bark into a vat, that the hide becomes leather?

As it is gratifying to find any of our Mechanics or Farmers, wishing to know "the why and the wherefore," we essay with pleasure to answer his inquiry. —By pouring a quantity of water on any astringent bark, such as oak, beech, willow or poplar, and suffering it to stand for some time, it dissolves or extracts from the bark an astringent substance called Tannine. This name was given to it because tanning consists in combining this substance with skins. The decoction thus made, is therefore, a solution of Tannine in water, the remaining part of the bark, being insoluble in water, is entirely useless, in the operation of tanning.

If a piece of the fresh skin of an animal, after the hair and impurities are cleansed off, be put into water and boiled for some time, part of it will be dissolved. Let this solution be slowly evaporated to a small quantity, and put aside to cool, and it will be found to resemble a substance well known by the name of gelly, called by chemists Gelatine; continue the evaporation further by exposing the gelly to dry air, it becomes hard, is semitransparent, and is the substance so much employed in the arts, under the name of Glue—Gelatine is Glue.

When an infusion of Tan (Tannine) is dropped into a solution of Gelatine, a copious precipitate is formed, having all the properties of leather, this precipitate is formed of Gelatine and Tannine: leather therefore, is a combination of those two articles united by immersing skins and bark together in a tanner's vat.

It is probable that, if warm water could conveniently be used, that it would facilitate the operation. *Farmer & Mechanic.*

Natural Wonders—It is very surprising, that two of the greatest natural curiosities in the world, are within the U. States, and yet scarcely known to the best informed of geographers and naturalists. The one is a beautiful water-fall, in Franklin county, Georgia; the other a stupendous precipice in Pendleton district, South Carolina; they are both faintly mentioned in the late edition of Morse's Geography; but not as they merit. The Tuccoa Falls are much higher than the falls of Niagara. The column of water is propelled beautifully over a perpendicular rock, and when the stream is full it passes down without being broken. All the prismatic effect, seen at Niagara illustrates the spray of Tuccoa. The table mountain in Pendleton district, South Carolina, is an awful precipice of 900 feet. Many persons reside within five, seven, or ten miles of this grand spectacle who have never had curiosity or taste enough to visit it. It is now however occasionally visited by curious travellers, and sometimes men of science. Very few persons who have once cast a glimpse in the almost boundless abyss, can again exercise sufficient fortitude to approach the margin of the chasm. Almost every one, in looking over, almost involuntary falls to the ground, senseless, nerveless and helpless; and would inevitably be precipitated headlong, and dashed to atoms, were it not for measures of caution and security, that have always been deemed indispensable to a safe indulgence of the curiosity of the visitor or spectator. Every one on proceeding to the spot whence it is usual to gaze over the wonderful deep, has in his imagination, a limitation, graduated by a reference to instances with which his eye has been familiar. But in a moment, eternity as it were, is presented to his astonished senses; and he is instantly overwhelmed. His system is no longer subject to his volition or his reason, and he falls like a mass of pure matter. He then revives, and in a wild delirium surveys a scene, which for a while he is unable to define by description or imitation.

How strange it is the Tuccoa fall and Table Mountain, are not more familiar to Americans! Either of them would distinguish an empire or a state in Europe.—*U. S. Telegraph.*

THE FARMER.

October 31, 1832.

National Characteristics.—A writer in an English publication, giving an account of his travels in the Netherlands, thus speaks of the honesty of the Belgians. "A Flemish country house is merely a summer residence, as the inhabitants lock up the doors at the end of September, and leaving their furniture, &c. to its fate, without protection of even a single servant (a fact which certainly gives a very favorable idea of the honesty of the Belgians) resort to the town till the heat of spring reminds them of their cool avenues."

At the recent Fair of the American Institute we exhibited, for Miss Parmentier, of Brooklyn, two baskets of silk cocoons. Not being covered with glass or any other substance to render it impossible for them to be taken away, but being committed to the honesty of the public, they were all, one by one, pilfered. So deficient are our countrymen in honesty and gallantry, that an article exhibited for the public good, and by a lady too, is not safe. In many instances it is the want of consideration rather than of honesty that such

articles on such occasions are purloined, for, on the first day of the exhibition, one of the officers of one of our city banks, let his son take a cocoon. When his son asked him the privilege of carrying one away, instead of permitting, he should have embraced the opportunity to impress him with the extent and breadth of honesty.

JEFFERSON COUNTY AGRICULTURAL SHOW AND FAIR.—This successful Society held its Annual Fair in the village of Watertown, on the 3rd inst. We make an abridgement of the proceeding. A larger concourse of people attended than on any former exhibition. The specimens of stock and manufactures excited in a high degree, the admiration of all, and fully demonstrated the important interests which it is the object of the society, to encourage and cherish.

After the ploughing match the society repaired to the First Presbyterian Church, where an appropriate address was pronounced by the Rev. Mr. Gere; after which the premiums were awarded.

POTATOES.—Mr. Fleet, Sir,—On page 185 of the New-York Farmer, you inquire if the eyes nearest the stem, or those furthest from it, produce the earliest crops? In this part of England the stem end is cut off, as having no set, and given to the pigs and fowls. The other end, of course, is considered earliest; the middle part is cut according to the number of eyes. Various opinions are given respecting the sides of the sets; but a good strong set or plant seldom fails in giving a good return. Small sets go further in planting, but do not, I consider, in general produce so good a crop.

A single potato, of the early kind, has, this season, produced the astonishing quantity of one and a half pecks.

An extraordinary occurrence in the vegetation of the potato, took place in this neighbourhood. In the month of March last, a quantity of early potatoes was planted in the usual way. No appearance of potatoes took place above ground. The owner supposing the sets had been destroyed, the ground remained undisturbed until June, when the owner commenced digging the ground for another purpose. To his great surprise, he found a most abundant crop. Where there should have been a set, there was formed a strong short tube. M. SAUL.

Stulyard-street, Lancaster, Eng. Sept. 14, 1832.

FRUIT.—*Mr. Fleet*,—Apples, and also pears and plums, have generally failed with us, owing to a few frosty nights, while they were in bloom. The blossoms appeared very early, as we have had very little frost during the winter. M. SAUL.

SPANISH ONION—*A great increase.*—Mr. Fleet,—Twelve ounces of white Spanish onion, which I sewed in February last, produced four and a half hundred weight, besides a great quantity of small ones which were taken out of the bed while they were growing. M. SAUL.

A PROLIFIC DUCK.—*Mr. Fleet*—In this neighborhood, a duck has, this year, layed the surprising number of 161 eggs, 135 of which were produced in that number of days. M. SAUL.

BEES.—Instead of going to any additional expense in constructing temporary sheds or coverings for the bee-hives, farmers should, if they have leisure, before severe cold, prepare apartments similar to the following, which we take from the N. E. Farmer:

I sent you, Mr. Editor, about eighteen months ago, an account of a new fashioned bee-house, which I had seen in Otsego county; and informed you I had constructed one after that model, into which I proposed to put the first swarm that came from the parent hive. A young swarm was put into the house in July, and the same season they filled the small hive with comb, but went no further. This summer, contrary to my expectations, they put forth two swarms, but have made very little addition to their comb. The first swarm was put into a very close aparment, four feet square, built for the purpose in my garret, early in July, a hole being made through the brick wall for them to pass in and out. On examining their apartment, I find they have not only filled the common hive, in which they were introduced, but have constructed an equal quantity of comb upon the outside of it; the whole if filled with honey, would weigh 70 or 80 lbs. I am induced to believe these will not send out colonies while there is room to continue their operations at home. As their passage through the wall is about 26 feet from the ground, I have strong hopes that the bee-moth will not disturb them. The principal advantage that this sort of bee-house promises, is the facility it affords of taking honey when it is wanted, without destroying or injuring the bees. B.

Albany, Sept. 2, 1832.

SETTING OUT TREES.—Those who transplant trees should remember to set the south side towards the sun, as they originally stood. Success often depends very much on observing this.

TROPICAL SEEDS.—We acknowledge the receipt of a trunk containing a numerous variety of seeds from Dr. Perrine, U. S. Consul, at Campeachy.—Among them are Eatable Pinon Nut, Tree Cotton, Chipilin Usca, a garden vegetable, Shrub Aroma, Acheote, Tree used to make shade for the Cocoa tree, Spanish Cedar or Bastard Mahogany, Nankeen Cotton, Shrub Indigo, Holosin, producing a long fibre from the bark, Large Squash, Small Pasture Tree, Anil de Palo or Wood Indigo, Gumelastic, Cradle of Love, Mikania Guaco, Indigo, and two or three kinds of cotton, and a considerable quantity of Mahogany

seed. We shall force some of each in the greenhouse, and distribute them to our friends.

TULIPS.—We are indebted to Mr. M. Saul, of Lancaster, England, for a box containing near one hundred varieties of choice tulip bulbs in fine order. We shall immediately consign them to the soil. Their increase will enable us, we trust, to distribute them among our friends, and thus be enabled to make a suitable return. Also a paper of Mr. Saul's seedling Polyanthus.

LANCASTER (ENG.) AGRICULTURAL SOCIETY.—We have a Lancaster Herald of August 4th, containing an account of a show of flowers by this society.—Some idea may be formed of the state of floriculture in England, from the fact that florists confine their principal attention to the culture of carnation pinks, piccatees, and tulips, for which Lancaster is far famed.

LARGE APPLE.—A writer in the Gen. Farmer states that he, this season, had an apple in his orchard weighing twenty-eight ounces.

MANUAL LABOUR SCHOOL.—The Baptist Convention of North Carolina have purchased the plantation of Gen. Calvin Jones, in Wake Forest, sixteen miles from Raleigh, N. C., for the purpose of founding a Fellenberg School. The farm is pleasant and healthy, containing six hundred and seventeen acres; about four hundred are under cultivation. One of the grand objects of the institution is to overcome southern habits and prejudices against manual labour.

FINE COW.—Mr. L. Jenkins, of Canandaigua, in communication of Oct. 10, to the Genesee Farmer, says, one of his best cows has furnished his family of fourteen persons with a full supply of milk, cream, and butter, until within a few weeks. She is mostly of the Durham breed,—has yielded two pounds of butter daily,—a part of the time more, and during the last of the season less, and giving six to seven gallons of milk every day. From two cows he one season made 322 lbs.

DESTRUCTION OF BEES BY TOADS.—A writer in the London Horticultural Register, states, from his own observation, that toads consume bees.

FALL SOWING.—Many kinds of vegetables that are usually sown in the spring may be sown in the fall. The advantages are much earlier fitness for market, saving of the time in spring, the most busy period of the year. Peas are said to be in a condition fit for market fifteen days earlier than by the common management.

INOCULATING CHEESE.—John Robinson, Esq., Secretary of the Royal Society of Edinburg, in a communication to the Agricultural Journal, gives the following account of importing the properties of one cheese to another: "If it be required," says he, "to communicate to a cheese the flavour and appearance of an old one, it may be done by the insertion in the new cheese a proportion of the old one containing the blue bould. The little scoop which is used in samples of cheese, is a ready means of performing the operation, by changing ten or a dozen of rolls which it extracts, and placing them to disseminate the germ of the blue mould all over the cheese. A new Stilton cheese treated in this way, and well covered up from the air a few weeks becomes thoroughly impregnated with the mould, and generally with a flavor not to be distinguished from the old one. I have sometimes treated half a Lancaster cheese in this way, having left the other half in its natural state, and have been much amused with the remarks of our riend on the striking superiority of the English over the Scotch one."

ORNITHOLOGY.—Mr. Audubon, under the date of Eastport, Me., 12th Sept., thus writes to a friend in Philadelphia:—

"I have to announce to you the discovery of a new *wren*, or as I must call it, a Troglodyte. I would gladly come from Boston—nay, from Philidelphia itself, fifty-two times per annum into these parts, (Dennysville), could I be sure of being thus each time rewarded. The little rogue was shot in the deepest recesses of the darkest woods, where beds of moss full knee deep spread themselves by acres, where the sun seldom peeps and where man seldom walks; it breeds hereabouts, and I know a good deal of its tricks and actions. I have made a fine drawing (excuse me saying so, the Lord knows if by and by it will be believed that I ever drew a bird) of the *Tetrao Canadiencis* of four figures and some rare plants to me. These birds build in the state, and are found in it during all seasons. I have eight, some of which are in beautiful plumage."

STRAW.—Experiments on the nutritive matter in the straw of different kinds of grain, similar to those conducted by Mr. Sinclair relative to the grasses, are very desirable. Horses and cattle seem to eat the straw of beans and peas as readily as hay; and the experience of this farm leads to the belief, that the straw of wheat possesses much nourishment. It is coarse and woody, indeed, but contains a great deal of saccharine matter; and if used with a very small addition of turnips, the cattle are found to thrive on it. Last season, there were fed here from the beginning of November to the middle of May, eight greys, rising three years old, five rising two, and five rising one. They had two acres of yellow turnips, a middling crop, and the oldest two lots had nothing besides but wheat straw. The largest proportion of the turnips was given to the youngest lot; for some time, the eldest two got scarcely any, and for six weeks previous

to the grass, wheat-straw alone, without a turnip, was the food of these. They all grew well, and retained their condition, and no falling off on the part of the latter during the last six weeks was perceptible.—*Ayrshire Reports.*

On the Changes of Wind,

AS INDICATED BY BALLOONS, WITH A VIEW TO THE IMPROVEMENT OF NAUTICAL SCIENCE.

Dr. Foster, of Boreham, in the county of Essex, has at length completed a series of observations and experiments on the nature and changes of the wind, which he thinks may lead to results of considerable importance to mariners, and become the means of extending nautical science, and of adding to the securitiy of ships at sea.

By a long series of experiments made with small air-balloons, he has found that the upper currents of air, which cross each other in various directions in more elevated regions of the atmosphere, *usually come down, and blow next to the surface of the earth and the waters, in the same order of succession in which they have previously blown aloft.* He thinks, likewise, that the currents of wind which he has encountered in his numerous journeys over mountains, in the pursuit of meteorological phenomena, have been explained on similar principles to those which blow over the sea: and that the Alpine Gales which cross the mountain's top in the Swiss and Savoyard Alps, descend and sweep the vallies within the space of thirty hours.

These experiments were begun so long ago as the year 1811; and after fifty or more experiments with small balloons, and nearly double that number with large kites, tied one above another, so as to ascend to great heights, he has deduced the result, not only that upper currents descend to the earth, but also that gales of wind are usually circumvolvent, like whirlwinds of great extent, and do not, as has been hitherto supposed, blow in straight lines.

Dr. Forster has likewise made the important remark, that during his last aerial voyage in a very large balloon, filled with inflammable air, he moved in a circuitous or gyrating course, the periphery of which diminished, or, in other words, the curvature *increased* as the balloon *ascended*, and that in proportion as the spiral approached its vertex, at the elevation of above six thousand feet, the motion was slower. This circumstance is exceedingly curious, being the reverse of the mechanical law, according to which equal areas are described in equal times by revolving bodies, and it tends, therefore, to prove that the causes of wind are not mechanical but electrical.

The *practical application*, however, of these observations is of the most importance; for if it can be clearly shown that wind changes first above, and that upper currents subsequently descend, small balloons may be converted into very useful instruments for ascertaining the coming weather; and if kept on board ships might serve for the purpose of indicating the approaching changes; which would be of service at times to vessels at sea in variable weather. Balloons, too, might be kept at the sea ports, and launched to ascertain the direction of the ensuing gales, before the sailing of ships. This subject seems very speculative at present, but Dr. Forster is about to repeat his experiment, and perhaps his example may encourage similar enterprise in other parts of this country and of Europe, and may in the event lead to useful results. For when we consider how closely the changes of wind are connected with all other phenomena of the weather, and the vicissitudes of the seasons, any discovery which may conduce to our foreknowledge of such changes must be both interesting and useful.

Singular Adventure in Switzerland.

The following is a remarkable adventure which happened to a fellow traveller:—Weary with a long day's ramble, after losing his way, he arrived very late at an hostelry, of a very humble and somewhat suspicious appearance, where he not only found a very scanty supply of food, but what was worse, was told he could not have a bed, unless he could be contented to take up his night's rest in a room, which upon inspection, appeared already to be fully occupied, and by a description of persons, judging from their appearance, not of the most eligible kind. In fact, the only spot in which he found there was any prospect of reposing himself, after the fatigues of the day, was a rather spacious room, the floor of which was already strewed with travellers, many of whom, to judge by their appearance, (to say no worse,) were likely to prove unwelcome, if not dangerous, bed-fellows. The wanderer, as well as the pauper, often encounter strange bed-fellows. There was no resource, and at length, after procuring a large blanket, he took up a recumbent posture on the floor, taking care, at the same time, to have his pistols within his reach. He had been now sometime stretched at length, not much at ease, and after tossing and turning, was about to add to the subjects of the heavy but levelling God, when he observed the door of the room open slowly, as if directed by some cautious person, afraid of giving alarm. His first movement was to put his hand upon his pistols, determined, at all events, not to die unrevenged. He had presence of mind, however, to lie still, watching, at the same time, the motions of the door, and especially of him who opened it, and who was now slowly and cautiously entering the apartment. In one hand he now beheld a lanthorn, while the other grasped what appeared to be a dagger. He had now advanced a considerable way in the room, and was in the act of examining, in an uneasy manner, which betrayed no small fear of discovery, the different persons who met his view on every side, seeming to look for some stray article or appendage of the sleepers, which he might, unperceived, make his own. He had not, however, yet done more, apparently, than slightly investigate the physiognomy of some of the sleepers, making his way, not by rapid, but long and silent strides, towards that part of the apartment where he himself reposed, not as you may suppose, on a bed of roses. He was now close upon him, as if he had selected him as the object most likely to repay him for a more minute inspection; occasionally, however, he observed he cast an eye backward towards the door, as if afraid of interruption in that quarter. In one of these intervals he grasped his pistol, not knowing how soon he might have to defend himself from the marauder, when, all at once, he beheld him quickly take another direction, and at length opened the door of a large cupboard. That which he imagined at first to be a dagger, proved to be merely a carving-knife; the next moment (the interval was scarcely perceptible) he saw the lean robber in the act of ——— What? I think I hear you say—in the act of slicing, then of devouring voraciously, a huge piece of bacon, which he had cut with no unsparing hand, from the main stock, to which the cupboard had proved no protection. After having satisfied the irresistible impulse of hunger, he retired by the same entrance at which he entered, loaded with an, as yet untasted, and larger piece, reserved, no doubt, for a more private discussion. On mentioning the circumstance the following morning to "mine host," he recognised in the swinish robber, his son Pedro, whose appetite he described as being of that inordinate a d insatiable nature, that nothing could satisfy.—*Rev. W. Liddiard's Tour in Switzerland.*

Early Rising.

"From March to November, at least, no cause, save sickness, or one of equal weight, should retain us in bed a moment after the sun has risen;" so says Dr. Granville, in his Catechism of Health, upon whose rules, however, we cannot consent to act. The following, from Time's Telescope, is more in accordance with our notions;—"Whoever is found in bed after six o'clock, from May-day to Michaelmas, cannot, in any conscience, expect to be free from some ailment or other dependent on relaxed nerves, stuffed lungs, disordered bile, or impaired digestion. Nothing can be done—absolutely nothing—if you do not rise early—except drugging you draughts—a *luxury* which the indolent morning-sleeper must prepare himself to purchase dearly. We give him joy of his choice—bid him good bye, and springing out into the sunny air, we gather health from every breeze, and become young again among the glittering May-dew and the laughing May-flowers. "What a luxury do the sons of sloth lose!" says Hervey, in his flowery Reflections on a Flower Garden, 'little, ah! little is the sluggard sensible how great a pleasure he foregoes for the poorest of all animal gratifications.' Be persuaded; make an effort to shake off the pernicious habit. Go forth,' as King Solomon says, 'to the fields—lodge in the villages,—*get up early* to the vineyards'—mark the budding flowers—listen to the joyous birds—in a word, cultivate morning pleasures, and health and vigour will most certainly follow."

Happiness.

No man can judge of the happiness of another. As the moon plays upon the waves, and seems to our eyes to favour with a peculiar beam one long track amidst the waters, leaving the rest in comparative obscurity; yet all the while she is no niggard in her lustre—for the rays that meet not our eyes seem to us as though they were not, yet *she*, with an equal and unfavouring loveliness, mirrors herself on every wave; even so, perhaps, Happiness falls with the same brightness and power over the whole expanse of life, though to our limited eyes she seems only to rest on those billows from which the ray is reflected back upon our sight.

NEW PUBLICATIONS.

Annual Catalogue of Fruit and Ornamental Trees and Plants, cultivated at the Linnæan Botanic Garden and Nurseries. WM. PRINCE AND SONS, *Proprietors, Flushing, Long Island, near New-York.* 1832-33.

Some idea may be formed of the extent of the Linnæan Garden and of the progress that has been made in horticulture, from the following enumeration of the species and varieties of fruit trees contained in this catalogue. Of apples there are 511 varieties, pears 532, cheries 121, plums 221, apricots 48, peaches 202, nectarines 47, almonds 21, mulberries 28, quinces 14, currants 28, raspberries 31, gooseberries 101, walnuts 18, chesnuts 5, filberts and hazelnuts 16, medlars 6, persimmon 9, papaw or custard apple 3, berberries 15, blackberries 23, strawberries 54, whortleberries 25, grapes 555, figs 52, pomegranate 13, olives 30, oranges, lemons, citrons, shaddocks and limes 46.

These, when taken in connexion with the very great varieties of ornamental trees and flowering plants, show very conclusively that horticulture and floriculture have received much attention from our enlightened countrymen, and are fast becoming universally favorite pursuits.

The catalogue is got up in handsome style, with some improvements compared with those previously issued from the same establishment, and with those from other gardens and nurseries. The time in which each variety of most of the kinds of fruit ripens is given, and in some instances the qualities, particularly of the apples and pears. This is a great convenience, rendering it perfectly easy to make a selection ripening in almost any desired succession. We notice that the works, in which they are described or figured, are often mentioned. A leading characteristic or property of the plant, and also occasional remarks in reference to a classification founded on their habits or appearance are occasionally interspersed. We are strongly under the impression that these annual catalogues might be very considerably improved with a trifling expense, by the adoption of abbreviations and characters to denote their various habits, popular character, height, time of flowering, color of flower, native country, when introduced, if exotic, and localities, if native, method of propagation, and soil. All this information could be given with scarcely any enlargement of the catalogue, simply by occupying the blank space opposite every name. Such a work is at present a desideratum in this country—would contain information that foreign publications do not afford us. If the names were alphabetical it would be a convenience.

We recommend to the attention of our readers the following extract from the introductory remarks. If the Messrs. Prince have data sufficient to sustain beyond any doubt, the observation in reference to their local climate, particularly so far as their trees were less injured by the severity of last winter, than those from other nurseries and other sections of the country, the facts are important. The reasons given appear to us to render them probable.

"One great advantage," say the Messrs. Prince, "possessed by the trees sent from their establishment, is their particular *hardihood*. From the proximity of the nurseries to the ocean, on the one side, and to the East River on the other, with a free and open exposure to all winds, accompanied by the particular advantage of being so far north as to acclimate the trees to any still more northern sections of our country, they acquire a degree of hardihood which render them extremely eligible for removal to colder latitudes, and to support the rigors of less favored regions, and trees thus hardened by nature are also found to succeed best in our southern states. It is doubtless to these causes that is to be attributed the general success which has attended the trees sent from this establishment, even when transmitted to Nova Scotia, the Canadas, &c., and the past winter of 1831-32 has incontestibly proved their superior hardihood, they having withstood the severity of the season uninjured, whilst immense numbers of trees elsewhere, in the middle and in the eastern states, were destroyed thereby."

Transactions of the Essex Agricultural Society, of Massachusetts.

In a former number of the Farmer we announced ourselves indebted to the Rev. H. Colman for pamphlets, containing the various addresses and reports of this spirited and patriotic Society.

The first pamphlet is that containing the address of Col. Timothy Pickering, the first president of the society, delivered in 1820. His observations are of a practical bearing, and should, when we consider that he was himself a practical farmer, as well as one of the most intelligent and best informed of our distinguished citizens, have weight and be received as authority. He thus speaks on deep ploughing:

"For myself, I entertain no doubt of the utility of deep ploughing; not at once, in our lands in general, but by an increase of two or three inches at every annual ploughing, until the earth be stirred and pulverised to the depth of ten or twelve inches. Indian corn, planted in such a mass of loosened earth, would not, I am persuaded, ever suffer by ordinary droughts. Like a sponge, it would absorb a vast quantity of rain water, and become a reservoir to supply the wants of that and of all other plants. Nothing is more common, in a dry summer, than the rolling of the leaves of corn; and that circumstance is often mentioned as an evidence of the severity of the drought. This rolling of the leaves of Indian corn is the consequence, in part, of scant manuring, but still more of shallow ploughing. Few, perhaps, are aware of the depth to which the roots of plants will penetrate in a deeply loosened earth. A gentleman,* much inclined to agricultural inquiries and observations, informed me, near fifty years ago, that seeing some men digging a well, in a hollow place, planted with Indian corn, then at its full growth, he stopped to examine how far its roots had descended; and he traced them to the depth of nine feet. The soil was an accumulation of rich earth which had run or been thrown into the hollow."

Five years previous to the delivery of this address, Mr. Pickering received a pamphlet, sent to him and written by that celebrated agriculturist, Arthur Young. Mr. P. extracts, among other testimony, Mr. Arbuthnot's practice:

"In respect to tillage, Mr. Arbuthnot carried it to great perfection. He invented a swing plough for a pair of horses and the general depth of six inches, and a much larger one with wheels, for gaining the depth of twelve, and even of eighteen, for some peculiar crops, especially madder. Upon the advantages of deep ploughing he

* Peter Oliver, Esq. then a Judge of the Superior Court of Massachusetts.

never had the least hesitation; but always declared that in all he had read or heard, he never met with one argument against the practice that had with him the smallest weight."

Many farmers are under the impression that they do not derive the whole benefit of their manure when buried deep, especially in sandy soil. From the same pamphlet Mr. P. gives the following paragraph:

"Mr. Ducket's manner of applying dung, although his was a sand farm, was similar to Mr. Arbuthnot's. Immediately connected with the depth of tillage, is that to which dung may be safely deposited. He [Mr. Ducket] had not the least apprehension of losing it by deep ploughing; but freely turned it down to two or three times the depth common among his neighbors. Yet Mr. Young says, that farmers (and good farmers too) persist in a contrary practice. But he adds—'Enlightened individuals, thinly scattered, know better; having convinced themselves that Mr. Ducket's practice is not only safe but beneficial;' and then names one who 'ploughs in his dung as deeply as his ploughs can go, turning it in nine inches, and would bury it twelve, did he stir to such a depth.'"

Mr. Pickering quotes with approbation the remarks of Mr. Young, that "The use of *fresh* instead of *rotten* dung is one of the greatest agricultural discoveries that has been made in the present age." Mr. Young closes his observation on those distinguished agriculturists, Mr. Arbuthnot and Mr. Ducket, with the following summary:

"I shall not quit (says Mr. Young) the Husbandry of two men who carried tillage, on soils so extremely different, to its utmost perfection without remarking the circumstances in which they agreed. Both were equal friends to deep ploughing; both rejected the common repetition of tillage, and reduced the number of their operations to a degree that merits attention; both rejected fallows; and both ploughed deeply for depositing manure, without any apprehension of losing it. These are very important points in Practical Agriculture."

Among other important topics which Mr. P. introduces, is that of improving and feeding stock. He is now speaking of Mr. Bakewell:

"He began his improvement of sheep, by selecting from the best in his neighborhood. And so little had any correct principle of improvement been known or regarded, that a guinea or half a guinea extraordinary would give Mr. Bakewell the choice of any sheep in any flock.—And his uncommon sagacity enabled him, by the best selections and judicious crossings, to form a breed distinguished above all others, for *the disposition to fatten, early maturity, a form indicating strength of constitution, weight in the most valuable parts,* with *lightness of offals.* Mr. Young expresses his opinion, that there is not a breed of any sort of live stock in Great Britain, that does not derive its improvement from the skill, knowledge and principles of Mr. Bakewell. Another eminent Agriculturalist declares (and Mr. Young does not think he exaggerates) 'that Mr. Bakewell enabled those who followed his ideas, to produce two pounds of mutton where only one was produced before.'

"Mr. Young adds, that Mr. Bakewell was the most careful feeder of stock that he ever met with, and who made his food go the farthest. To horses and cattle in stalls, he did not permit more than a handful of hay to be given at a time; and the same economy was used in all other feeding. But his stocks were so large as to require one or more persons to be appropriated to that service. This practice, on our small farms and with our small stocks, cannot be fully adopted: but it may be imitated, in some degree, during the season (winter) most requiring such attention. By feeding them in this manner, the cattle will doubtless *eat more,* but they will *waste less:* so that while, in the whole, no more fodder will be consumed, the stock will be put into much better plight."

We will detain our readers on this part of the Transactions, only while they read the following paragraph:

"After providing a due proportion of apples for the table, and the ordinary purposes of cookery, I do not hesitate to express my opinion, that for all other uses, sweet apples are entitled to the preference. The best cider I ever tasted in this county was made wholly of sweet apples. They afford also a nourishing food to man and all domestic animals. What furnishes a more delicate repast than a rich sweet apple baked and eaten with milk?—I recollect the observation made to me by an observing farmer, before the American revolution, that nothing would fatten cattle faster than sweet apples.—Mentioning this, a few years since, to a gentleman of my acquaintance in an adjoining state, he informed me, that he was once advised to give sweet apples to a sick horse. Happening then to have them in plenty, the horse was served with them, and he soon got well: and continuing to be fed with them, he fattened faster than any other horse he had ever owned (and he had owned many) that was fed with any other food."

The next pamphlet before us is that containing the Transactions of 1828, embracing eighty pages. In an appendix we notice the contents of the pamphlets published since 1818. By these we learn that the Society must have been conducted with much spirit and effect, and highly creditable to those engaged in the good cause. This number of the Transactions contains another address by Col. Pickering. It is replete with sound practical information. Our limits will permit to transfer to our columns only the following remarks on the occupation of the husbandman:

"Within my memory, the ideas generally entertained of the occupation of the husbandman appear to me to have materially changed. It has ceased to be considered as an employment adapted only to that portion of society which was to consist of mere laborers. It is now deemed an honorable pursuit, by engaging in which, no man, however elevated may have been his birth or station, feels himself humbled, in partaking of its labors. On the contrary, men of the learned professions—others who inherit fortunes, or who have acquired them by their own industry in other employments,—now not unfrequently engage with zeal in the business of the practical farmer; and with useful emulation, they strive to excel in their new occupation. This, it is true, does not yield them profits like their former pursuits, which, indeed, they neither expect nor desire, but are content if they sustain no loss; while their improvements, effected by more ample pecuniary means, and proving what is practicable, present useful examples to their neighbors, who, bred to husbandry, and constantly present at every operation, and diligently laboring with their own hands, will render such improvements more profitable than they were to those who introduced them. This change of public sentiment is auspicious to the farming interest."

In the next pamphlet, which contains eighty-eight pages, we find much useful matter. In speaking of improved wet meadow lands, the Committee bestow a remark on the farm of the Rev. Mr. Colman, that we should suppose would justly place him among the best of our agriculturists. "This farm," say the Committee, "has been but three or four years in the possession of Mr. Colman, and the Committee are not acquainted with any farm in the county where greater improvements have been made in so short a time, or prosecuted with more judgment, and on a better system." Mr. Colman, in

his statement to the Committee on Reclaimed Meadow, gives the following account:

"In the fall of 1827 I began clearing it. There were many bushes to be cut down, and it was covered with coarse grass and rushes. A large part of it was constantly overflowed or filled with water, presenting a deep, miry, peaty soil, and scarcely in some places passable for a man, much less for cattle. In some places the peat soil is deep; but in most cases at the distance of three or four feet we reached a hard bottom of clay and gravel.

"I began the improvement of it by making a drain of three feet deep and about two feet wide in the centre for the whole length of the meadow to a place where, by cutting through a very rocky piece of ground, which formed a kind of embankment, there was a sufficient descent to take off the water. Then, by forming drains of less dimensions round the outside of the meadow, at the foot of the ascending ground, I cut off effectually all the springs which flowed into it from the neighboring hills; and by connecting the side drains with the main drain by lateral branches, have turned all the water into the centre drain, and thus led it off from the field. The drains are covered, excepting the outlet to the main drain. A channel of about four or six inches square was laid on the bottom of each ditch with such stones as we could find in the vicinity; they were then covered with the flattest or most suitable stones, which presented themselves; a quantity of small stones was then thrown in promiscuously; a layer of thatch or straw placed on these, and enough dirt returned to fill it up; and the whole levelled and smoothed off. The top stones of the drain were always kept so far below the surface as not to interfere with the plough."

On the utility of reclaiming wet meadows, by barren, inert substances, Mr. C. gives us his opinion:

"I have," says he, "applied sea sand to wet land, ploughing it in, but perhaps from using it too copiously thought that the land was impoverished by it. I have seen meadows made hard by covering them with gravel; but besides the expense, deem it doubtful expediency to cover land with a perfectly barren and inert substance. My own experiments in this way have not been satisfactory; and as the late intelligent President of the Essex Agricultural Society remarks,* 'if meadows admit of being thoroughly drained by ditching, I would never carry on gravel or sand absolutely barren substances.' In most cases of meadows reclaimed by gravel the produce has been of a very ordinary quality; and filled with plants accustomed to wet and soaked lands, which afford an herbage neither savory nor nutritious to cattle."

From Mr. Jesse Putnam's statement to the Committee on Potatoes, we deem the following well worthy the attention of our readers:

"With regard to placing the potatoes *upon* or *under* the dung, I could perceive no difference in the yield. I was disappointed in finding that the cut potatoes, and middling sized potatoes, yielded better than the large potatoes that were planted whole. I could discover that the produce of the large potatoes, that were planted whole, were generally of a larger size than the others, but not so numerous, or near so valuable for the table. The pieces of the potatoes that were cut were placed in the hills about eight inches apart. The middling sized potatoes were placed about the same distance apart. There was nearly the same quantity of potatoes, in each kind, planted in a row. I am of the opinion, that it would have been well to have spread a part of my manure upon the land, if it had been fine enough for that purpose; and think it would have been well to have put one third part more seed on the land. I used between fourteen and fifteen bushels of seed in planting."

* Col. Pickering.

The importance of observing the most strict economy in saving of manure is urged, by almost every agricultural writer, and yet how many are there who give no heed, and constantly and habitually violate the golden rule of the farmer.

"Confine your cattle," says Mr. Colman, in his Hints to Farmers of Essex county, "as much as possible when at home to your barn-yard; and never suffer them to be in the roads; or to waste the manure at their watering places. In the morning throw the droppings of every night into a heap and cover it with a light coat of soil. It is a better plan to house your cattle every night as much in summer as in winter, unless the weather is extremely hot. In general, if the barn is ventilated they will be as comfortable in doors as out, and in this way your manure heap will be greatly increased. Take care of the contents of your privy, and save the refuse of your sink by throwing it upon a compost heap, or making the deposite where they can easily be removed. The privy and sink on many farms are most offensive places, and are sometimes so situated that they compel one to think their owners have scarcely made an approach to a state of civilization. We should copy the extreme carefulness in this respect of the Chinese and the Flemish farmers, who suffer nothing to be lost. A good farmer should look upon manure of every description as money, which he may place at once at compound interest, and the payment of which is sure. There is no provision of nature, which is adapted more to strike the reflecting mind with grateful astonishment, than that by which the most offensive substances, instead of remaining to pollute the air and destroy the health and comfort of man, are converted into the means of fertilizing the earth, and return to bless him in all the varied forms of beauty and utility, in flowers and fruits and the more substantial products of esculent vegetables and grain. Manures decidedly improve each other by being mixed in compost rather than applied singly. For almost all crops they are of much greater value applied green than kept over the year; and where a farmer cannot form a cellar under his stables, he will find his account in erecting a cheap and rough shed over his manure heap to preserve it from the wind and sun and drenching rains. The expense of it when attached to the barn need not be great, and will be much more than compensated by the advantages gained by it."

To those parents who are bringing up their children for mercantile instead of agricultural pursuits, we would recommend them to consider the fact which Mr. C. records in this one sentence. "We have often heard it remarked," says he, "by intelligent merchants in Boston, that those engaged in trade, from one cause or another more than *three-fourths* become bankrupts or die insolvent." We wish all who read the following beautiful remarks would feel themselves pledged to promote, by every means in their power, the great and primary interests of rural pursuits:

"We look," says Mr. Colman, "upon the cause of agriculture as essentially that of humanity, public happiness, good morals, and religion. Whatever serves to increase the means of subsistence and comfort concerns humanity. Whatever contributes to make the country more beautiful and more bountiful, promotes both individual and public happiness. Whatever leads men to be industrious and frugal, essentially concerns their morals. Whatever increases our attachment to our homes, and strengthens our domestic affections by making our homes comfortable and happy, must make us more sensible to God's goodness. More than this, Practical Agriculture must lead a man constantly more and more to study the works of nature and to contemplate with wonder and gratitude the miracles of divine pro-

vidence, which are presented to his observation in the beautiful progress of the seasons and their appropriate and various products. 'Nature is God's earliest revelation,' and it is full of instruction. Our Saviour bade his disciples strengthen their faith in the protecting providence of God by looking at the birds of the air and the flowers of the field. The enlightened and reflecting farmer, in surveying the products of his labour, the various operations in which he is called to perform his part, and the brute animals, who gratefully acknowledge his care and look up to him as the almoner of divine bounty to them, will find constant and powerful incitements to think of and to honour God, the great husbandman, whose rain enriches, whose sun warms the earth; and who in his goodness has placed man in his vineyard that he may till and dress it."

The next pamphlet which is of 88 pages, contains the Transactions for 1830. In proportion as agriculture enlists the powers of the mind, its resources will be developed and its happy influence on the character of mankind will be experienced. On this subject we are pleased to transfer to our pages the following, from the address of J. H. Duncan, Esq.:

"The first step," says he, "in the successful prosecution of any art, is, to form a just estimate of its importance; the next, to bring to its improvement the energies of the mind. It is the controling influence of mind which must successfully direct the application of power in any department of Art, and it is Science alone which can give dignity to any employment. The union of science with practical skill, is requisite to advance any art to perfection. The opinion has too long prevailed, that there is little occasion for the exertion of mind in the operations of Husbandry, that it is altogether an affair of the hands: that a good constitution of body and industry are the only requisites to form a good farmer. No opinion could more fatally degrade the character of Agriculture and Agriculturists. There is the same and equal occasion for discernment, good judgment, and intelligence in the business of Husbandry as in the other employments of life. And there is an increasing demand for these qualifications in the more advanced state of our Agriculture, in as much as it is more difficult to renovate the fertility of an exhausted, than to gather the riches of a virgin soil. The course of husbandry has essentially changed with the age and circumstances of our country. The articles of cultivation, and the objects which claim the farmer's attention, are more numerous and diversified now than formerly. And it may be confidently asserted, for it is demonstrated by the condition of their farms, that the best informed and most intelligent are the most successful farmers."

The next and last pamphlet which we have is that embodying in 120 pages the Transactions for 1831. The first part contains an address of Mr. Colman, which we have noticed in a former number of the Farmer. As a specimen of the farm reports we submit the following, trusting that our readers who render their farms even more productive, will still be advocates for the practice of making reports. Mr. Matthew Hooper says:

"The farm under my care includes about one hundred and forty acres of land—forty acres belonging to myself—one hundred acres held under a lease from the heirs of the late Benajah Collins, Esq. It is situate near the centre of the town of Danvers, at the head of Waters river. The soil is generally good, and there is no waste land. The present year I mowed about sixty acres, pastured about fifty acres, and cultivated about twenty-five acres. The same farm has been under my care for the last eight years.

"The produce the present year I estimate as follows—English hay, 35 tons; low ground hay (of good quality), 35 tons; salt hay, 1½ tons; Indian corn, 650 bushels; potatoes, 450 bushels; cider, 2½ barrels; pork, 2000 lbs.; beef, 5000 lbs.; wheat, 14½ bushels; rye, 15 bushels; oats, 85 bushels; butter, from April 2d to Nov. 24th, 603 lbs.; cheese, new milk, 440 lbs.; onions, 3 acres, 900 bushels; carrots, 1 acre, 15 tons; squashes, 2 tons.

"Our number of cows have varied from six to ten in different parts of the season. Our family has usually consisted of from ten to fifteen persons, which, together with another family of eight persons, have been supplied with milk from our dairy—which has necessarily diminished the quantity of butter and cheese.

"My corn was principally raised on land that has been pastured the last thirty years; the produce varied from thirty-five to fifty-five bushels to the acre. The average produce of all my land planted with corn will equal forty-five bushels to the acre."

We are sensible of having given but a faint idea of the respectable manner in which the Essex Society have brought before the public their Transactions, and of the happy influence which must have been exerted in the county; but we hope sufficient has been laid before our readers to strengthen their favorable impressions of agricultural associations, and to make them strong and persevering advocates for organizing and sustaining them in every section of our country.

FARMERS' WORK FOR DECEMBER.

This being the last month in the year, every considerate farmer will compare his present situation and prospects with what they were at the close of last year. He will call to mind wherein he has been deficient in judicious planning, in following out with energy his plans, and in varying them according to the state of the market, the season, and other circumstances. If his crops have been light or have failed, he will trace out not only the direct and ostensible cause, but that habit or system of operation which renders him peculiarly liable to suffer from variableness of seasons or extremes of weather. If he has kept regular accounts of his expenses and income, the value of his stock, and of his land, he will be enabled to balance his books; and should he find that there is a deficit, he should immediately introduce strict economy into every department, and devise those plans which will hazard the least and promise a successful result. Should his accounts indicate prosperity, let him lay out the surplus in increasing the value and productiveness of his land rather than in his building, in the necessary repair and enlargement of his out-houses, rather than in those of his dwelling. And, after he has made himself and all around him comfortable and snug, let him put at interest the money he has remaining. Those farmers who adopt some course similar to the above, may, under the ordinary blessings of Providence, be sure of much enjoyment, and live free from an apprehension of leaving their families in want and distress.

KALENDARS.—One of the benefits of keeping kalendars is the habit of observation which is acquired. It not only benefits the farmer himself, but his children also. They more or less catch his spirit and imbibe his sentiment. It is a good practice to require one or more youthful members of the family to keep a kalendar or diary. One might keep an account of animated nature, the appearance, disappearance, habits and history of birds, insects, fishes, reptiles, and quadrupeds; another might take that of the vegetable nature, the effects of frost and heat, the

decay and flowering of plants, and whatever might be connected with the effects of the season on vegetation. The farmer himself should record every thing relating to the management of the farm.

Sheep.—Those farmers who do not wish to lose from a quarter to one half of their lambs, should endeavor to have their sheep in proper order, to have their constitutions invigorated. If they are left exposed to cold and storms, and not properly nourished, they are sure to drop their lambs in a state too feeble to endure the chills of the weather and the scanty nourishment afforded them. We have a statement from a farmer, which we will publish in the January number, showing that he does not lose more than one lamb in a hundred. His method is to have the sheep in a healthy, strong condition.

Seed Turnips.—Farmers should be particularly careful in selecting the fairest and best shaped turnips for seed. Some English turnip growers consider seeds collected from turnips sown three or four years in succession to produce turnips with too many and long roots and thick and coarse necks. To remedy these they procure the seed from turnips that are transplanted one year and sown the next.

Manures and Teams.—In all those sections of our country that have been long cultivated, the accumulation of manure is unquestionably a subject of the first importance. As most barn yards are arranged, a very great proportion of both the quantity and the strength of the manure is wasted by constant alternation of drenching and drying. Something to prevent these effects is required. Frequent carting of vegetable mould, bog earth, or common soil, will prevent the liquid from being lost and the manure from becoming suddenly dry. During this month, and frequently in the course of the winter, earthy substances may be carted, if a sufficient quantity has not been previously procured. It is a rule, in respect to the economy of teams, that they should be well fed and have some one or more hands to keep them constantly going. To do this, increasing the manure heap should be the grand object when other indispensable business does not engage the team.

Soured Food.—It is not uncommon, in England, to mix meal and water, and let the mixture stand 10 to 12 days before it is given to hogs and cattle, for the purpose of becoming sour. For cattle and horses, straw, hay, potatoes, turnips, and carrots, may be cut or chopped and minced with the water and meal. A little salt should be added.

Drains.—All the drains in the meadows, and about the dwelling and out-houses, should be examined and put in order. Sometimes spring ploughing is delayed from a little inattention to this subject before severe frost sets in.

Cellar.—We should suppose the health of the family would be promoted, and the warmth of the cellar increased, by having it well cleaned out, white-washed, and the bottom covered with one to three inches of tan bark.

Orchards.—Rather than let the hired help be idle, have all the dry limbs cut out and brought home for fuel. If any of the trees bear a worthless apple or is so far decayed as to be of little value, cut them down, and send to the nurseries for the very best variety to supply their place.

Ornamental Trees.—Every farmer should consider how much he might improve the value and appearance of his farm and dwelling, by going into the woods and selecting the most ornamental and useful trees to set out about his fences and yard. He should remember that the value of a farm depends very much on the readiness with which it will sell. A few trees set out this month, and a little white-wash in the spring, will improve the appearance of some places very much, and consequently make them more saleable. He who transplants trees, sets a good example for his neighbors, and is thus benefitting the public. Trees from the nurseries are generally better for transplanting than those from the woods.

Gardeners.—Those farmers who know how to appreciate a good garden well supplied with all kinds of culinary vegetables and fine varieties of fruit, should employ a gardener, who will be willing to make himself generally useful about the house and on the farm when his services are required. If he is a foreigner and a professed gardener, positive stipulations should be made with him to labor wherever he is needed, otherwise he will very soon begin to murmur when he is called out of the garden. The best way is to hire him to work on the farm, under the expectation that he will work in the garden during leisure times. Such a gardener who is accommodating, and takes a pleasure in making himself generally useful, can always find employment. There are many gardeners now out of employment. Farmers who do hire help, would do well to engage a gardener for one or more years. They will, in the course of the winter, during their leisure, be preparing for early vegetables.

GARDENERS' WORK FOR DECEMBER.

All omissions of last month should be carefully attended to as soon as possible; for, the gardener will recollect, frost, as well as time and tide, waits for no man. Success in almost all kinds of business depends more on saving and avoiding losses, than on close application, great industry, and superior judgment in management.

Grape Vines.—In some sections of our country it is advisable to lay down and cover with the soil most varieties of exotic vines; in others, laying leaves or litter about the roots will be sufficient to prevent those sudden extremes that are so injurious to vegetation. Many foreign vines, however, require no protection. Should the vine be trained on a wall or side of the house, exposed to a warm sun, and also to bleak and cold winds, the danger is greater than if standing on the north side. If there should be danger that the sun would start the sap in warm winter days, or too early in spring, the vine should be shaded.

Figs.—This plant is becoming quite common in our gardens. By careful management two crops can be ripened in a season. As yet, however, it has not become sufficiently acclimated to stand our winters without some protection. Binding straw around them will sometimes answer. Laying them down and covering them with earth is a more certain protection; this is done by bending the plant as much as it will bear, and covering it in a trench, particularly the extremities, which are generally the only parts that receive injury by frost. Should the ground be wet the roots on one side may be loosened that the plant be more easily bent—the whole then covered. Some gardeners protect the roots with litter, and the branches with mats.

Bulbous, as well as many other roots that are left out, should be covered with litter or leaves.

Newly Planted Trees, particularly, if not perfectly hardy, should have their branches protected.

Pruning.—It is the practice of some gardeners to prune hardy plants in the winter, particularly rotten and decaying branches. Care should be taken to prune so that no water, snow or ice, remain on the wounded parts. Trees should be examined in this month, for the purpose of preventing rain from settling in hollow and decayed parts.

Strawberries that were transplanted, but not sufficient early to take good root, should be rolled to press

the earth even and dense, or covered with straw, or perhaps by about an inch of rich vegetable mould.

TENDER PLANTS in pots, when the convenience of a green-house or of a parlor sufficiently warm is not had, should be put into beds of tan, light rich vegetable mould, or rotting leaves, or litter, and the beds surrounded with boards sufficiently high, covered with boards or sashes. Horse manure or litter put around the outside of the frame will add to the protection. By taking off the boards in fair weather, many green-house plants can be protected in this way very well. If the bed is below the surface of the ground outside, the warmth will be greater.

EARTHS suitable for different kinds of exotics should be collected from among rocks, in the woods, swamps, and from heaths, laid by themselves in heaps, or mixed into composts with leaves and other substances. Leaves that are designed for hot beds should be put away dry; those for compost may be green and wet.

COMPOSTS should be made by collecting together all vegetable and animal substances about the premises. The manure from the stable should not be thrown out into the yard to be bleached by rains, but put under sheds. If not wanted for hot beds, every cleaning of the stable should have sufficient earth thrown over it to protect it from being diminished by evaporation.

BEAN POLES and Pea Sticks should be collected and put away, where they will be preserved from rotting and from being wasted.

TRANSPLANTING.—As long as the ground is in such a state that the trees can be taken up, and the soil pulverised and put around the roots in a proper state, trees may be transplanted. It will answer well to take them up with a frozen ball of earth around the roots, and set out, or put into the cellar till spring.

SEED ROOM.—For the want of a proper place to preserve seed, many gardeners omit to gather them. During the leisure months of winter a part of the garret, if a more convenient place cannot be obtained, should be partitioned off and fitted up with shelves, and a case of drawers of different sizes, hooks, scales, and a moveable counter. If the expense of partitioning off a part of the garret is an objection, let a board of some five or ten inches in height be nailed to the floor, inclosing a space sufficiently large for drying seeds, &c; let this inclosure be devoted as a seed room. This plan will prevent the seeds and bulbs from being wasted and mixed by the family.

INSECTS.—Trees should be examined, and all the eggs and cocoons or nests of insects destroyed. With a crooked knife all the rough bark and moss should be scraped off. Boiling water put to a mixture of lime, soot and sulphur, is recommended as a suitable wash for the trees after they have been scraped.

CELLAR.—This should be kept clean and in fine order. The remains of last winter's storings should be all taken out—the stone and beams white-washed. It should be kept of an even temperature as possible; not higher than 42° nor lower than 33°, particularly if it contains fruit.

DIARIES.—Every gardener should keep a diary, in which he should not only record his daily transactions as minutely as possible, but his observations and his thoughts on all subjects connected with his pursuits. He will derive satisfaction and profit. At the end of every month he should review the whole, and transcribe and enlarge suitable parts, and transmit them in the form of a communication to some editor for publication.

NEATNESS.—In using manure and straw about a dwelling to keep out frost, some gardeners disfigure the house and garden very much. This should be avoided as far as possible.

SEED POTATOES.

We are indebted to Mr. Saul for the following extract from an English publication. It shows the importance of calling to mind all the circumstances connected with the potatoes for seed from the time they were dug until they were planted, as well as afterwards. Many farmers and gardeners attribute poor crops to the weather after they were planted, when perhaps the seed had been previously injured.

Since my communication published in your paper of the 11th July, I find that manure has a strong claim to attention, in regard to the rot in seed potatoes, as it increaseth the heat, and is also productive of a number of insects or grubs, which feed upon the sets. From a number of observations, I have ascertained that potatoes planted in a cool situation, or at such depths in the land that the sun's heat could not have had much effect upon them, vegetated and remained sound for a considerable length of time; while the same seed planted in the usual way, in hot weather, invariably began to rot in a very few days. I do not wish it to be understood that I consider all seed potatoes to have failed from heat after planting, though it has been the case to a great extent; for I believe the vegetative quality of the seed has in many cases been materially injured by heat, or sweat, in the stores; or on board vessels, when they have been imported. Very probably potatoes suffered to heat, after being cut into sets, decay the quickest. From this cause they will fail in something like a regular manner; while the others will fail in various ways, according to the quantity and quality of the manure, the heat of the weather, and the condition of the land at the time of planting. There has, however, been the greatest failure on strong cloddy land.

It ought to be borne in mind that potatoes were thrown considerably out of their regular course by a succession of warm and dry weather previous to the late seed time. In 1831 they were brought to perfection, in many cases, prematurely, a month at least before the regular time. They began to grow in the stores in the depth of winter; the land, too, was in condition for planting a month or more earlier than usual. Had potatoes, then, been planted as early, in proportion, or, as is generally the case, as soon as the land was brought into condition, it is probable the decay of the seed, from heat, and so forth, would scarcely have been known. Though the seed might be injured by sweat at any time, I am of opinion the quantity would have been considerably reduced. It is perhaps worthy of remark that potatoes have generally kept well that have never been removed from the stores they have been kept in during winter, while those that have been frequently removed have almost invariably began to rot. From this cause several persons were under the necessity of putting off their stocks, at any price, as they were of opinion that the whole would have spoiled.

[*For the New-York Farmer.*]

UTILITY OF AN AGRICULTURAL PAPER.

MR. EDITOR,—I should be the very last to recommend mere book farming, being well aware that mere reading and theory, without experience and practice, will never make a farmer; but I also know that an Agricultural Paper may convey many useful hints to the most experienced, and in this point of view may be eminently useful.

There is a way of *merely doing* a thing, and there is a way of *doing a thing as it should be*. Now, if we merely *do*, we shall remain stationary, but if we get in a habit of doing things as they *should be*, then we go ahead. My experience and observation teaches me, that there are

many hard days' work thrown away for want of a little information *how to do them as they should be*. Many fine horses, oxen, cows, sheep, and hogs, are lost for want of a little correct knowledge of farriery. Many disorders in the family are rendered incurable for want of a little correct knowledge of Domestic Medicine; and much good coloring stuff is wasted for a want of a knowledge of the art of coloring. On all these subjects, an Agricultural Paper ought to give correct information. Besides these, such a Paper usually contains much interesting matter which cannot fail to have its use in every family.

Within my own observation I have known men who have lost several hundred dollars worth of horses and cattle, for want of a little correct information as to their treatment, which could have been acquired for a dollar or two laid out in procuring an Agricultural Paper, and property saved to one hundred times the amount.

Such are my views on the uses of an Agricultural Paper. Yours, &c., AGRICOLA.

November 3d, 1832.

[*For the New-York Farmer.*]

MEDICAL TREATMENT OF HORSES.

MR. EDITOR,—I am aware that my ideas respecting the nature and treatment of Glanders, Grease, Strangles, &c. are somewhat peculiar, but I still think them correct. I conceive the bile to be the natural corrector of the system; and, when diffused in the circulation, it comes in contact with the glands, by which the various humors of the body are prepared and passed. These glands are irritated and inflamed, especially the smaller glands, which are unable to pass the bile; it irritates, inflames, and produces suppuration in them, and induces Farcy, Glanders, and other glandular affections. The kidneys, and other large glands, are capable of passing this secretion, and hence the Yellow Waters, or Jaundice. While the bile continues to flow regularly by the ordinary channels into the bowels, they are rarely, if ever, disordered, or any affection of the glands appear; but the moment it is diffused into the circulation, irregularity of the bowels and glandular affections ensue. This secretion is indispensable to a healthy digestion, and in this view every way important in the bowels, but in the circulation a deadly poison. It would seem, therefore, every way important to direct this secretion as nature intended it, into the bowels.—Such are my ideas on this subject: and I remain, yours, &c. CARLO.

August 25th, 1832.

[*For the New-York Farmer.*]

STRANGLES.

MR. EDITOR,—The Strangles, I conceive to be one of those numerous glandular affections with which our horses are so often affected; that it owes its origin to an indirection of the bile; that this secretion being thrown into the blood, or circulation, comes in contact with the glands; that the smaller glands, about the throat and jaws, are unable to pass it, and are irritated, inflamed, and a suppuration brought on. The first object, therefore, in its cure, as well as in most other glandular affections, would appear to be to lead the bile into the bowels, and thereby restore the digestion to a sound state. To do this, I think, half an ounce of gambouge, one ounce of aloes, one ounce of saltpetre, and a quarter of an ounce of calomel, made into ten or twelve balls, as heretofore directed, and one ball given every morning and evening, will ultimately restore the natural order of the body. I agree with Mr. Hind, that the inflamed glands should be treated with the mildest applications. No *Oil of Spike, Corrosive Sublimate*, or other irritating or drying medicine, should be applied, but the sores should be frequently washed with warm soap-suds, and mild, moist poultices and such applications only applied as will tend to lubricate the glands and promote the discharge. Heating, irritating, and drying medicines may heal the sores, but, I think, can never cure the complaint. The treatment above recommended, I think, will perform a permanent cure, but it would require time and perseverance, especially in cases of long standing.

Yours, &c. CARLO.

September 3d, 1832.

[*For the New-York Farmer.*]

SPAVIN.

MR. EDITOR,—In case of Spavin, or any other swelling about the legs of horses, a bandage should be put on moderately tight, and the swelling bathed three or four times a-day with the liquid Opodeldoc, heretofore directed. Where the swellings are on such parts as will not admit of bandaging, they should be frequently bathed with Opodeldoc. It will generally scatter the tumors.

CARLO.

September 21st, 1832.

[*From the Genesee Farmer.*]

CAULIFLOWER.

This vegetable is extremely delicate, and is esteemed equal to any other for its excellence wherever it is cultivated and known. To what extent it may have been cultivated in this state, or in any part of the state, I am unable to say, as I have never seen much written on the subject; it occurred to me, however, that it might be cultivated to great advantage in the latitude of Rochester. Two years passed away before I could obtain seed. Last winter I obtained some, and on account of the backwardness of the spring, I omitted sowing until the middle of May. This produced me a lot of sickly plants, partly owing to the coldness of the weather and partly by being sown on the north side of a board fence, which kept the sun from them a great part of the day. The middle of July I transplanted them into good, rich, warm, quick soil, about two feet apart each way, twenty in number; the manner of cultivation nothing different from that of cabbage. On the 9th inst. I cut a head which measured forty-four and a half inches in circumference, and weighed eight pounds and three ounces, making a sufficient quantity for three meals for a family of nine persons. I have thirteen or fourteen more, several of which are superior in quality to the above. To those who are acquainted with the article, I need not point out its qualities; and those farmers and gardeners who are ignorant of its worth, remain so no longer. Get your seed this winter, cultivate them next season, and if you are not well paid for all your trouble, you shall have no more of my advice. If any information should be desired as to cooking and preparing the cauliflower for the table, all I possess shall be cheerfully communicated, as much depends on the cooking to make it all you desire.

OTIS TURNER.

Medina, Orleans Co., Oct. 22, 1832.

[*From the same.*]

WHEATLAND AGRICULTURAL SOCIETY.

ON SUMMER FALLOWS, SPRING CROPS, AND THE DESTRUCTION OF RED ROOT.

Gentlemen—Agreeably to your request, that I should give my opinion on summer fallows and spring crops, and also the best way of destroying red root, I would respectfully report:

I would first observe, however, that having trod the old track of agriculture so much, without a regular system, seldom having noted down days or dates of ploughing, or the result of crops from the quantity of labor performed, all I can do is to give from memory a loose, crude opinion on those subjects.

With regard to fallowing ground, there are two objects to be attained—one is to resuscitate the earth; the other to destroy the weeds and noxious herbage which may tend to interrupt the growth of the crop you propose to cultivate. How far the soil may be revivified by preventing the growth of vegetation, is to me a dubious question. We see, for instance, where the herbage is kept down by travel as in roads, that the soil is not enriched, but the reverse. I conclude, therefore, that the resuscitation produced by fallowing is owing principally to tillage. The amount of tillage, or the number of ploughings, harrowings and *rollings* (although rolling is not much in practice, it is certainly very beneficial on cloddy lands) that it is necessary to give a piece of land in one summer fallowing, must depend much on the situation of the land to be fallowed.

In heavy timbered land, for instance, all that is necessary is to remove the timber, allow the surface a sufficient time exposed to the sun and air to decompose or rot the vegetable substances on the top of the ground, before the seed is sown, to insure a good crop. In open lands, in a state of nature, where the natural vegetation is strong and hardy, and the rooty fibres are coarse and strong, it is absolutely necessary first to plough thoroughly, and the longer it lays without cross-ploughing the better, providing other vegetation is not produced; and in order to insure a tolerable crop, I think it is indispensable that it should lie the greatest part of the three hot summer months in order to rot the sod.

Where wheat is a primary crop, as it is in this section of the country, and where it is our interest to sow it as frequently as we have a fair prospect of reaping a good harvest, (and we ought never to sow without we have,) experience teaches that summer fallowing occasionally is indispensably necessary, but how frequent, or what summer crops may be substituted in its stead, I cannot satisfactorily answer. Where the land is in good heart, wheat does very well after corn and barley. Peas, too, are an excellent fallowing crop; where they do well, they leave the land clean and in good order; but they do not answer well in this neighborhood on account of the bugs, although I am told when sown the fore part of June they are free from bugs; but in that case they come off the ground rather late for sowing wheat. The mangold-wurtzel or field beet, will doubtless be an excellent fallowing crop; so are potatoes; but the quantity of labor required to raise and secure the former, and the difficulty of disposing of the latter, will render those crops but a partial substitute for summer fallows.

Oats may be extensively and profitably raised on lowish, rich lands, so long as locomotive steam engines do not supersede the use of horses; but on our dry uplands in ordinary seasons, I think it not profitable to raise more than we require for our own use. They are a bad crop to sow wheat after, for although, being sown in the spring, some of the weeds indigenous to wheat may be destroyed, they leave the ground in a dead, impoverished state.

Wheat, in some instances, may be sown after wheat, so as to produce immediate profit; but I am doubtful whether in the long run it will be productive of real benefit, and at any rate ought seldom to be resorted to, for by this course, those weeds which seem natural to wheat, or, to speak more correctly, whose nature the cultivation of wheat is congenial to, and whose hardy seeds seem to be inexterminable, such as cockle, chess, red-root, &c., are cultivated, and we are well aware that it is much easier to prevent than it is to destroy weeds when once they have got possession of the land. A frequent recurrence to clover, with a plentiful use of plaster, will, I believe, be the best extensive method to dispense with frequent summer fallowing; but I think that every other crop of wheat we sow, the ground ought to be fallowed.

The time of breaking up, and the number of subsequent ploughings, must depend much on circumstances. Very stiff clay soils would be best broken up in the fall, that the earth may be pulverized by the winter frosts. Other hard lands, which are difficult to plough, would be best broken up in the spring, while the ground is soft. You get your work more thoroughly done, and it saves team, and wear and tear of tools; our ordinary stubble or grass lands may be broke any time before Independence; if they are broke up much later than that, they hardly deserve the name of summer fallows, although clover stubbles, where the land is fresh and has not lain over two or three years to grass, may be broke up after harvest, and yield a fair crop of wheat. The subsequent ploughings, after breaking up, ought to be sufficiently frequent to keep down the weeds, but never ought to be done when the ground is very wet. A single ploughing, when the ground is wet, will destroy your previous labor, by rendering useless one of the principal objects of fallowing, viz: the pulverizing the earth. Fallows that are infested with plants whose fibrous roots shoot up from every joint, and spread horizontally throughout the soil, among which we may name sorrel and several species of grass, the roots of which are by some termed quickens, ought to be frequently ploughed and harrowed in dry, hot weather, that the roots may wither and die by the heat of the sun.

The red-root is certainly the worst weed, excepting the Canada thistle, that ever infested winter grain. It comes forward so early in the spring that, where it is thick, it totally destroys the crop. I have not had much experience in killing, not having noticed it on my farm until four years ago. I will therefore give you a method proposed by Mr. LEVI LACY: Plough the ground the latter end of August; again in the spring, and plant with corn; fallow the next summer, and sow it with wheat in the fall; but whenever you find it among your grain, you must not omit to weed it carefully by hand the latter part of May, or before the seed begins to ripen.

All which is respectfully submitted:

JOHN GARBUTT.

October, 1832.

[*From the Southern Agriculturist.*]

RULES FOR THE HOUSING AND PRESERVING OF SWEET POTATOES

CHRIST CHURCH PARISH, S. C. June, 1832.

Dear Sir,—In compliance with my promise, I have been governed for many years in putting up my potatoes. I have been very successful in following them, and I hope they may prove beneficial to others. The first thing to be considered is the cellar, and I would recommend—

1st. The rails or puncheons to be split in July, or the first of August, and stacked up for drying.

2d. The cellar to stand east and west, with the door in the centre and perpendicular, to face the sun the most part of the day.

3d. To be made on as high and dry a spot, and convenient for draining as possible, and made at least five weeks before wanted.

4th. To be double banked, by making a coarse frame to support the same. The earth to be taken four feet from the foot of the cellar all around, about three feet wide, eighteen or twenty inches deep; in this ditch, never let any water remain, but keep it perfectly dry.

5th. To be supported inside by short crutches, standing three feet high with poles, or rails laid lengthways in those crutches. By thus supporting your cellar, it will last you two years with safety, by airing it. When your cellar is finished, small fires to be made at each end, that it may be perfectly dry and clear of damp.

6th. The cellar to be perfectly tight with no air holes left—to have two doors, one a tight door for the inside, the other a slat door hung on, and opening on the outside; the slat will admit the requisite air as much as may be necessary.

7th. The pine-trash to be well dried as usual, and laid in the cellar six inches thick at least, and if dried a second day, it would be of advantage.

8th. To begin with your potatoes—make four sortments in the field; 1st, all that are least touched with frost or chilled—2d, all that are cut—3d, seed—4th, eatable potatoes:—to be harvested free from any kind of wet or rain, and brought in by sunset, and on no consideration move them a second time, but put them where you intend to keep them from the first move out of the field.

9th. On commencing your housing, small fires to be made in any thing convenient, say a large pot with a little earth in the bottom, every evening, until all are housed; your slat door then to be used, leaving the inner one open, and admit the air freely every morning, but shut in time, say two or three hours before sunset.

Now, having housed your crop, you will find considerable damp, but not detrimental, if you will pay attention to it, which is one of the principal secrets to be observed. On seeing this in a moist morning, you must have a small fire or a smoke of light wood or pine bark made to clear up this damp, and sometimes a second fire will be requisite, of which you will be the best judge when sufficient. Observe to keep the tight, or inner door, open at the same time and they will soon become cool. In a state of moisture your potatoes will remain for ten or twelve days. After this you will find them become more cool and much less damp in your cellar, which you should examine every morning. About this time you will find them sprouting, then you are sure of their keeping. But little trouble is now required—only, on seeing the damp, mind to make a little fire and open your inner door for air. The sprouted part of them is only on top of the heaps, not more than five or six inches deep: on examination, you will find the inner or lower part of them clear of sprouts, and dry. In my opinion, slips may be kept thus for two years; and root potatoes much longer than they generally are in our country.

The slat (of which the doors are made) is about two and a half inches in width and the same between each slat to be open. The door is about five feet high and two feet six inches wide.

A coarse frame is made with crutches for double banking.

Your obedient servant,

JOHN M. PHILLIPS.

Note.—The plan here laid down by our correspondent has been successfully followed for many years, and we have been shown potatoes kept more than a year by him, in these cellars. Our readers will recollect that another of our correspondents experienced great benefit from the use of smoke in his cellars, and from all we can learn, we are inclined to believe that they may be kept longer in a sound state by following these rules, or similar ones, than any other mode in *common* practice among us.—[ED SO. AGR.]

CASHMERE GOATS IN ENGLAND.

The Cashmere Shawl Goat has been successfully introduced into England by C. T. Tower, Esq. of Weald Hall, Essex; and as that gentleman, by this time, must have some of his flock to dispose of, we think their introduction among cottagers for their wool, and also (as suggested Vol. V. p. 532.) for their milk, a fair subject for some of our female readers to speculate on. This variety of the common goat (or, probably, it may be a distinct species) is a fine looking animal, and would be very ornamental in a park, on a ruin, on the side of a rock, or in a churchyard. It would also be very pleasant to have a home-made Cashmere shawl. We shall, therefore, give all the information we can on the subject, from Mr. Tower's account, as published in the last volume (xlvi.) of the TRANSACTIONS OF THE SOCIETY OF ARTS. The Cashmere goat was brought from Persia to France during the time of Napoleon, and under his patronage, by the celebrated M. Terneaux. In 1823, Mr. Tower, happening at that time to be in Paris, purchased four of them, two males and two females, and succeeded in conveying them safely to his residence in Essex. The soil of the Park at Weald Hall, where they have been kept ever since, is moist, and the situation is much exposed. The animals have, nevertheless, continued in health, and multiplied rapidly; so that his present flock consists of twenty-seven, including the four original ones. Of these latter, a polled female, which was old when purchased by him, has every year produced at least one kid, and has twice had twins. Those individuals of which the horns cross, are in Persia esteemed the best; and one of Mr. Tower's last year's kids has this peculiarity. They show no impatience of cold, and are very healthy; requiring only the occasional shelter of a shed in very rough weather. In spring, summer, and autumn they graze like sheep; and, during winter, have been fed with hay, and refuse vegetables from the garden; but their favourite food is gorse (Ulex Europæa,) which they devour eagerly, without being annoyed by its prickles. They damage young plantations, but not more than other goats or deer will do. They breed very early: three of Mr. Tower's goats this year produced kids before they were themselves a twelvemonth old. A few produce brown wool; but that of far the greater proportion of the goats is white, and this latter is more valuable than the other. The coat is a mixture of long coarse hair and of short fine wool: this latter begins to be loose early in April; and is collected, easily and expeditiously, by combing the animals two or three times with such a comb as is used for horses' manes. A good deal of the long hair comes off at the same time, but the manufacturer has found no difficulty in separating it. The produce of a male is about 4 oz, and of a female about 2 oz.: 2 lbs. of wool, as it comes off the goat's back, may be estimated to make one shawl 54 in. square. It will, therefore, require ten goats, male and female, to furnish materials for one shawl. Mr. Tower has this year had three shawls made of his wool, one of which was examined by the committee of manufactures. The yarn was spun by Messrs. Pease of Darlington, and was woven by Messrs. Miller and Sons of Paisley. Mr. Tower's shawl was compared with one made in Scotland, of French shawl-goat wool, to which it was evidently far superior. It was also compared with a shawl of M. Terneaux's own make; and was considered by very competent judges to be superior to this also. (TRANS. SOC. ARTS, vol. xlvi., as quoted in ENCYC. OF AGR., 2d edit. § 7340.)

Mr. Tower's goats were visited by Mr. Riley this present summer, and he declares them to be the most interesting specimens of the pure breed he has ever seen. The flock, consisting, in 1823, of two bucks and two does, now (1832) consists of 51 animals. Mr. Riley found them "grazing promiscuously with other stock in the park, and appearing extremely docile. The climate of England renders it necessary that, at night, they should be protected in sheds; and, in winter, fed with hay," &c. "The down was at this time taken from them by a girl, with a common horse-comb; and, on comparing it with some specimens I had procured in France, received through Russia, I found not the slightest degeneration: but, on the contrary, from its very clean state, and the small proportion of hair, I should say, it would realize in Paris a much higher price than any I had seen. Mr. Tower has had some shawls made from the produce of his flock, one of which he presented to his late Majesty. It was greatly

admired, and considered to rival those of Cachemire. Mr. Tower states that his flock produces an average of 2 1-2 oz. of down annually from each animal." (p. 42.)

[*For the New-York Farmer.*]

YELLOW DYE FOR TEN POUNDS OF YARN OR CLOTH.

MR. EDITOR,—Take 5 lbs. of ground fustic, put it into a large brass kettle, and fill the kettle half full of peach tree leaves, yellow top, or hickory bark, with the ross taken off. Hang over the fire, (the material being covered with water,) and let it boil briskly for an hour or more; then take off the kettle, and lift the material all upon a sieve or cloth; pour on hot water till all the coloring matter is extracted, when the material may be thrown away, and the tea evaporated about one-third. While this is doing, take 2 lbs. of alum, dissolve it in a separate vessel, and wet the yarn or cloth in this solution; then expose it for half an hour or more to the air; after which, it may be put in the dye, and lie for an hour, adding the remainder of the alum water. It should then be exposed to the air, and immersed in the dye, alternately, for four or five times, when a bright and permanent yellow will be obtained. Yours, CARLO.

[*For the New-York Farmer.*]

GREEN DYE FOR TEN POUNDS OF YARN OR CLOTH.

MR. EDITOR,—Prepare a dye as directed for coloring yellow. Wet the yarn in the alum water, and hang in the air as directed in that case; then take one ounce of good Spanish indigo, reduce to powder, and put in a junk bottle; add to it, a little at a time, one pound of oil of vitriol. When the indigo is dissolved, it is fit for use. A good yellow dye being prepared as above directed, add from the blue bottle two table spoonsfull of the blueing; then put in the yarn, and let it lay about an hour—boiling the coloring matter as often as the yarn is exposed to the air; adding from the blue bottle, and dipping, until the color desired is obtained. CARLO.

September 21*st*, 1832.

P. S.—All coloring, except black, should be in brass or copper vessels, and the coloring material always taken out before the mordant is added,

[*For the New-York Farmer.*]

HORTICULTURAL ITEMS.

SIR,—Accompanying my last, by the favor of Mr. Hawes, you will find in the box a printed account of the gooseberries of last year, and also a prize list. The following are extracts from different journals, which may be of service to you.

INCREASE OF PEAS, taken out of a wood-pigeon after it had been shot, while feeding in a newly planted field of peas. In the crop were 121 grains, which were planted in a garden, and produced 3240.

A MELON has been grown in the garden of Mr. Knox, of Castleren, of the extraordinary weight of 23 lbs. Its length 25 inches, and its girth 29.

A FINE CUCUMBER grown this season, at Bradford, 6 feet 1 inch long. It is of a striated rind, and has very much the appearance of a serpent.

A PROLIFIC VINE. There is now growing in the open air, at Sedgwick house, Kendal, the residence of Mr. Wakefield, a vine having on it the amazing number of 20,070 bunches—a very rare occurrence in this, our cold northern climate.

A STRAWBERRY TREE may be seen, in the garden attached to the manse of New Abbey, in full blossom on some branches, and bearing fruit perfectly ripe and of excellent flavor on others. So great a curiosity in the month of September is rarely to be met with, and is well worthy of a visit.

EXTRAORDINARY FECUNDITY. On Monday last, Sept. 3, a ewe of the Dorsetshire breed, belonging to Mr. Jordan, butcher of Cheltenham, yeaned 4 lambs, making a total of eight she has produced in ten months.

ANTA-CLOUDS. On Sept. 8, about six o'clock in the evening a singular phenomenom of clouds were observed near the Imperial Pump Room; and although such appearances are common, they have not been seen for many years in Cheltenham. The columns that were observed extended far above the loftiest trees, and presented the appearance of beautifully waving pillars of clouds, to the delight and admiration of several hundred spectators.

THE LONDON FRUIT GROWERS have had a most abundant crop this year, and are selling their apples at two and sixpence per bushel, which is 50 lbs. weight. We in this part of England, have had a complete failure this season.

A WONDERFUL CABBAGE, which presents a very singular deviation from the ordinary course of nature. It consists of upwards of sixty distinct heads attached to the present stem, each forming by itself a pretty sizeable cabbage.

AN ONION has been grown this season in a garden in Worcester, measuring 16 inches in circumference.

GRAFTING. In the month of April last, in a garden in Monmouth, some grafts of a Bell Norman apple were put into a stock. On the 25th of August two of the grafts had grown in length 11 feet 8 inches, and had borne 12 fine apples, nine of which had been cut off; of the remaining three, two measured 6 inches in circumferenee, and 2 in length.

THE DUCHESS OF ANGOULEME PEAS, is found not to answer in this part of England. It is found to be an early blower, and the fruit never sets but falls off.

I remain, yours, &c. M. SAUL.

Lancaster, England, Sept. 24, 1832.

[*From the American Farmer.*]

SEEDS OF FRUIT TREES, &c.—Sow the seeds of cherries, peaches, and some other fruits, which are of a perishable nature as soon after the fruit is ripe as possible. If such seeds are kept till the next spring, they become dried through, and the vegetative principle is destroyed. Evelyn, an English writer of celebrity, says that sowing acorns, beach mast, ash keys, &c. in the autumn, when those seeds fall spontaneously from the trees, appears by much the most *natural* method; but the destruction made by the field mouse, both at the time of sowing and during the winter, has induced many gentlemen to prefer spring sowing to the autumnal one. When spring sowing is determined on, the acorns and other seeds must be carefully preserved during the winter; and in forming the magazines, care must be taken to keep the different sorts apart from each other. They should be kept in earth to prevent them from becoming too dry.

[*From the same.*]

BUFFALO BERRY TREES, (Shepherdia.)—A gentleman in Boston, who has the original tree of this excellent and elegant new fruit and ornamental tree, in a letter to us says—"You will find a description of the shepherdia in the American Farmer, from Jonathan Winship. Next season we will send you a large branch of the tree in fruit. Our tree is 18 feet high, and when in fruit truly magnificent; gratifying to both the eye and the palate. Fancy to yourself the red currant growing

in compact spikes, about the diameter of a small ear of corn, and much more closely set than kernels of corn, on every large and even the smallest offsets, and you may have some idea of the beauty and elegance of this tree."

The following we deem worthy of the notice of those who cultivate the vine in this country, and is from the London Gardener's Magazine.

ON A RAPID MODE OF RAISING EXCELLENT VINE PLANTS.

Sir :—The following is a mode by which I raised a sufficient number of fine young vines to stock a vinery :—

At the pruning season, leave a shoot of strong young wood, over and above what may be wanted for training, of a sufficient length to bend down to any convenient place where a pot can be placed to receive it as a layer; and also for training it during its growth. When the vine begins to push, displace all the buds from the shoot intended for laying, except the leading one. When this is grown to about 8 inches or 1 foot in length, bend it down to the pot, and lay it so that the top joint, whence the young wood has sprung, may be fixed with a strong crook at about 1 inch under the surface of the mould. As soon as it begins to take root, which may be known by removing a little of the earth, begin to weaken its resources from the mother plant, by making an incision in the wood behind the pot; which enlarge by degrees, as fast as the young plant will bear it, until it be quite separated from the old one.

The advantage of the above method is, that the vine may be grown to 10 or 20 feet and upwards in length the first season, with a pot full of roots; so that it may be planted in any situation where it may be wanted, without being checked in its growth, as is generally the case when grown in the usual way from a layer.

The pot ought not to be less than a 24; it must be filled with rich compost; and, if the layer be watered occasionally with liquid manure, it will considerably promote its growth. I am, Sir, yours, &c. T. RUTGER.

Short Grove, Essex, July 5, 1832.

The Domestic Horticultural Society of the Western part of New York, held its annual meeting in Canandaigua, on the 27th of September. We extract the following from the report:

The following named gentlemen were unanimously elected—

John Grigg, President.

James Rees, Samuel Miles Hopkins, William H. Adams, Francis Granger, Alexander Duncan, Abraham L. Beaumont, Vice Presidents.

John Fellows, Treasurer.

James D. Bemis, Corresponding Secretary.

Z. Barton Stout, Recording Secretary.

On motion of Mr. Butler, Dr. Cutbush was appointed to investigate the habits of the Curculio, and report to the next meeting of this society, the most effectual method of preventing its ravages.

On motion of Mr. Fellows—it was resolved that the next semi-annual meeting of this Society be held at Lyons. The following gentlemen were elected as the Committee of Arrangements for that meeting; empowered to appoint the time, offer the list of premiums, notify the members, and discharge the other usual duties of such committee.

Wm. H. Adams, Abraham L. Beaumont, E. C. Goward, Graham H. Chapin, John M. Holley.

At 11 o'clock, the exhibition room was thrown open, when the members of the Society and numerous visiters expressed their unqualified delight at the fine display of rich fruits, choice vegetables, and beautiful plants and flowers—which afforded the most gratifying evidence of the continual improvement in Horticulture, which has attended the labors of the Society.

During the dinner, the committee appointed to award the premiums, reported as follows, viz.

FOR FRUITS.

Best doz. apples for table,	G. Goundry,	$1 00
" " winter do.	Dr. Cutbush,	1 00
" " pears for table,	Wm. H. Adams,	2 00
" " winter pears,	Oliver Phelps,	1 00
" " of peaches,	E. C. Howard,	2 00
2d " do.	A. Duncan,	1 00
best " of plums,	E. C. Howard,	2 00
2d " do.	J. Fellows,	1 00
" " of quinces,	J. D. Bemis,	1 00
best specimen of table grapes,	J. Fellows,	2 00
2d do. do.	G. Goundry,	1 00
Greatest variety of table and wine grapes,	W. H. Adams,	2 00
Best spec'n of native grapes,	do.	1 00
For collecting and presenting the greatest varietyof native uncultivated grapes, with a specimen of the branch and leaves of each, not less than six varieties,	Wm. S. Dell,	1 00
Best watermelon,	E. C. Howard,	50
Best muskmelon,	E. C. Howard,	50
And a discretionary premium for a highly productive vine of the Isabella grape,	E. C. Howard,	2 00

FOR CULINARY VEGETABLES.

Best cauliflower, 2 plants,	J. Bogert,	1 00
" brocoli, 2 do.	J. Fellows,	1 00
" cabbage,	J. Greig,	50
" half peck of potatoes,	Z. B. Stout,	1 00
" 6 turnips,	A. Duncan,	1 00
" 6 blood beets,	R. Pomeroy,	1 00
" 6 carrots,	J. D. Bemis,	50
" 4 celery plants,	C. Butler,	1 00
" quart of beans shelled,	E. C. Howard,	1 00
And discretionary premiums,		
Best squash,	W. S. Dell,	50
" Brussels sprouts,	J Fellows,	50
" Egg plants,	E. C. Howard,	50

FOR FLOWERS.

For the most beautiful specimens of Flowers, whether of herbaceous plants or shrubs, extending to three sorts, each	J. Bogert,	1 00

RIBES SPECIOSUM, OR STAMINEUM.

An especially showy species, having the entire habits of the gooseberry, yet vying in the form and brilliancy of its flowers with the elegant Fuchsia. A single plant was raised by A. B. Lambert, Esq., in 1829. The plant was, shortly after having been raised, planted in the open ground, where it is found to thrive luxuriantly, it being now (June, 1832) a large bush, five feet in height. It blossomed, for the first time, in the beginning of May, 1832, and continued in flower for more than six weeks. Its profusion of large, crimson, glittering blossoms, contrasted with its bright green glossy leaves, renders it one of the most beautiful objects imaginable."—[Mr. David Don, in Sweet's Flower Garden, July.]

Consolidation of Water.—De Saussure observes that 'as starch boiled in water with sulphuric acid, and thereby changed into sugar, increases in weight without uniting with any sulphuric acid, or gas, or without forming any gas, we are under the necessity of ascribing the change wholly to the fixation or consolidation of water.' By weighing a small quantity of quicklime before and after it is slacked, it will readily be perceived that water unites or consolidates with other substances.

SARATOGA AGRICULTURAL SOCIETY.

It is with pleasure that we insert the following constitution and resolutions of this society. We shall send the sheet containing the proceedings to all those composing the General Committee of the New-York State Agricultural Society, hoping they will embrace the present favorable season to organize a society in every county. The best and noblest feelings that warm the human heart should prompt to rise and lead their fellow-citizens on to prosperity and happiness.

At a meeting of citizens from the various parts of the county of Saratoga, at the village of Ballston Spa, on the 17th of October last, at which the Hon. ELISHA POWELL was chosen Chairman, and William C. Deforest, secretary, the following Constitution of "The Saratoga Society, for the promotion of Agriculture, Horticulture, and the Household Arts," was unanimously adopted.

1. This society shall be composed of such residents of the county as shall sign the Constitution, and such non-residents as may be admitted Honorary Members.

2. The officers of this society shall consist of a President, four Vice-Presidents, a Treasurer, and a Secretary.

3. There shall be four standing committees elected annually, each to consist of three members, viz: 1st. On Agriculture. 2d. On Horticulture. 3d. On Manufactures. 4th. On Domestic Animals.

4. The officers of the society, together with the Chairman of the aforesaid committees, shall compose a Board of Managers for the general administration of the affairs of this society, a majority of whom shall constitute a quorum, and shall be competent to enact such bye-laws as may be deemed expedient and necessary.

5. The President, or in his absence, the senior Vice President present, shall preside at all meetings of this society.

6. The election of officers shall be annually on the second Wednesday in October, when a FAIR, for the exhibition and sale of domestic animals, and of articles the produce of the farm, the garden and workshop, shall be established—at which time all premiums will be awarded, and the pecuniary concerns of the society be audited and published, with the general proceedings of the society.

7. Contributions to the funds of the society shall be optional and voluntary. All sums paid into its treasury shall be appropriated to the payment of premiums, and such contingent expenses as may be indispensable,—no pecuniary compensation to be made to any officers of the society, for services rendered.

8. No member, but such as has contributed one dollar to the funds of the society within the year, for his or her application, can be admitted a competitor for premiums. In all other respects, every member shall enjoy equal privileges.

9. The principle adopted by this society, in determining questions of relative merit among competitors for premiums, shall be, that the person producing the largest yield, of the best quality, at the LEAST EXPENSE, is most deserving.

10. In rendering certificates of subjects for premium, applicants shall be put upon their veracity; and in addition to their own written statements, shall produce the concurrent written testimony of two credible persons.

11. If at any time it appears to the satisfaction of the Board of Managers, that any unfairness has been practised in representing objects for the bounty of this society, it shall be their duty to cause the same to be recorded in the books of the society, and the person so offending shall hereafter be debarred the privileges of membership.

12. This constitution shall be subject to such alterations as the society at its annual meeting may determine.

On proceeding to the election of officers, the following persons were chosen for the ensuing year:

President—HENRY W. DELAVAN.

Vice-Presidents—John H. Steele, 1st, Earl Stimson, 2d; Philip Schuyler, 3d; William Taylor, 4th.

Treasurer—Elisha Powell.

Secretary—William C. Deforest.

Committee on Agriculture—David Rogers, Chairman; Elias Gilbert, Wm. G. Verplanck.

Committee on Horticulture—Samuel Young, Chairman; Samuel Freeman, Henry Walton.

Committee on Manufactures—Lowell Bullen, Chairman; Sylvester Blood, Anthony Olney.

Committee on Domestic Animals—Joseph Daniels, Chairman; R. M. Livingston, Isaac Curtis.

On motion of the President,

Resolved, As the sense of this society, that the promotion of Agricultural knowledge is an object entitled to the consideration of this state.

Resolved, That this society, through its Board of Managers, will petition the Legislature at its next session, in favor of an appropriation for the establishment of an agricultural school and experimental Farm, to be on footing with other seminaries of learning, and subject to the supervision of the Regents of the University.

[*From the American Farmer.*]

THE CULTURE OF THE VINE.

BERKLEYVILLE, Oct. 16th, 1832.

Mr. Editor,—Having intimated to you some time since that, when I found leisure, I might send for your disposal an account of some experiments I have made in the cultivation of the Vine, I accordingly transmit this.

In early life a farmer, and afterwards greatly injured in health by the sedentary life necessary to a course of collegiate and professional education; and by medical advice, from a northern, located in a southern part of our country, I purchased about three years since a small plantation, resolving to return to farming, my original employment, and with that to cultivate the vine. I was induced to undertake the cultivation of the vine, by the hope that I might exert an influence to increase in our country the pure, light, home-made wines, and thereby lessen the destructive effect of ardent spirits. My knowledge of rearing the vine was entirely theoretical. I had read considerable upon the subject, but had no experience.

The famous native of this state, the Scuppernong, had particularly attracted my attention. Late in the fall of 1829, I set out in the usual way three hundred cuttings of the Scuppernong, besides a number of other kinds of vines. Early in the spring of the next year, a neighbor, who was a subscriber to "The American Farmer," showed me a number of that periodical, in which was a communication of Mr. Herbemont, of Columbia, S. C., on the speedy manner of rearing the vine by grafting. Immediately I procured stocks of the Muscodine, (Bullus here named,) and other kinds from the surrounding woods, and grafted upon them scions of the Scuppernong and others; and to try the suitableness of different stocks to the several kinds of vines, I grafted interchangably, and in some cases different kinds upon the same stock.

My manner of grafting was that recommended for vines in the columns of the "American Farmer," viz. common cleft grafting, even with or below the surface of the ground. In some cases I bored gimblet holes in the roots, and thus inserted the scion, which manner also succeeded. At first, I put a composition of clay before drawing earth around the scion, but have since discontinued this as useless.

A friend in Pennsylvania sent me about four hundred cuttings of vines from a vineyard in that state; but, through an unlooked-for delay in their conveyance, they did not reach me until some time in the month of April. Of these last I succeeded in saving a few only of three kinds, viz. the Lisbon, Kobs-wine, and Madeira. My Scuppernong cuttings generally budded with apparent vigor; but soon, when hot weather came on, withered

and died—with the exception of two only, which, by careful watering and being in a place somewhat shady, grew off, and are now flourishing, bearing vines.

Those I grafted of all sorts generally succeeded. The common growth the first season about twelve feet: some upwards of twenty feet, and others under twelve.

With respect to the experiment of grafting interchangeably, and different kinds on the same stock, I mention as an instance of its success, that this fall I gathered Scuppernong and Sweet Water Madeira Grapes from vines growing on the same stock of the common Bunch Grape; Scuppernongs, from the stock of the Fox Grape; and other different kinds from stocks of the Muscodine. But I have found, that the Scuppernong does best grafted upon the stock of the Muscodine, to which it is similar in its bark, leaf, and texture of wood. As to the time of grafting, the spring appears to be most favorable; but I have flourishing vines grafted in the fall and winter. And I have experienced less trouble, and had more success in grafting upon stocks procured from the woods, than upon those standing, where desired, of natural growth, for the latter are more apt to send forth shoots, which, unless repeatedly pulled off, will destroy the growth of the graft.

Intending to add more in some future communication, I will conclude this by observing that, from my own experience, and that of others which I know, the Scuppernong very rarely succeeds when attempted to be propagated by cuttings. With great esteem, yours, &c.

SIDNEY WELLER.

[*From the New-England Farmer.*]

AGRICULTURAL ESSAYS, No. II.

THE IMPORTANCE OF MANURE.—Too much cannot be said upon the subject of Manure. The vast importance of this article has not been sufficiently attended to by farmers in general, altho' it is the principal source of their riches without it, after all their care and labor, they can; have but miserable crops of grass, flax, corn, &c. A man must plough, hoe, mow, rake and hire, more on poor than on rich land; and it will take a much greater number of acres to support his family comfortably. And it requires the same quantity of seed, is much harder to till, and is taxed the same as rich land; and after all produces not one half the profits. Every farmer, therefore, who wishes to reap the fruits of his labor and care; to improve his lands and increase his substance; and to live easy some future day, should carefully attend to the increase of his manure.

And here I would observe, that the hog-stye, properly attended, will be found to be one of the greatest and richest sources of this important article. Almost any quantity may be obtained from it; provided the farmer will be as careful to feed the stye, as the swine confined in it. All kinds of weeds, potatoe tops, straw, pomace, broken peat, dressing of flax, butt-stalks, roots and vegetables of every kind, will soon become the richest of manure when thrown into the hog-stye. Three or four swine in this way, will make twelve or fifteen loads in a year; the value of which, where dung is scarce and dear, will be four pounds at least. Several judicious farmers of my acquaintance are persuaded that the greatest profits in keeping swine arise from their styes. A small proportion of this manure, mixed with soil and rubbish, would be seen in a field of potatoes or of Indian corn. And the quantity to be made in one stye, well supplied with weeds and other vegetable substances, through the year, is almost incredible; some have said that "forty loads" may be obtained in this way, from ten or twelve swine, in one year only. And great quantities of excellent manure for dressing grass land, may be obtained by ploughing, or cutting up green sward two or three inches thick, by the sides of roads, walls, &c. and laying it in heaps, grass side down, for eight or ten months. A little lime mixed with it would render it fit for use much sooner.

One would think, that a farmer who mows over three or four acres of land, naturally good, but worn down, and which yield not more than fifteen or twenty hundreds of hay—who cultivates as many acres of Indian corn, on a soil equally as good, but starved and exhausted, and which return him sixty or seventy bushels only; when he looks into the fields of his neighbor, which are not better, if quite so good, in point of soil, but which are richly manured, and yield three times the crops yearly, must be convinced of the vast importance of manure; and of the amazing advantages to be derived from this great and capital article in the cultivation of the earth. The Chinese, who may be termed a vast nation of farmers, as agriculture is their most honorable and their principal employment, pay the greatest attention to it. The urine of families is all carefully saved; and the refuse of every kind of vegetable substance which the earth produces, through their labor and care, is made to contribute to reproductions. And, as very little can be done in the farming line in the states of New England without manure, excepting new lands, which from the general deluge have increased in richness, by the falling of leaves, and other substances scattered on their surfaces, it ought to be considered and attended to most carefully. And there can be no judicious farmer among us, who does not endeavor to obtain large quantities of this article, in proportion if possible to the proposed cultivation and improvements of the next year.

We read, that the lands of the rich man brought forth plentifully, but this was not merely because the possessor was rich; for, the lands of the wealthy will be no more productive than those of the poor, if they neglect to manure them properly. The truth is, a plenty of manure, and a judicious, seasonable cultivation, will soon put a new face upon almost any lands whatever. And if farmers in general would pay more attention to the increase of their manure, they would experience a decrease in their labors, and receive a much greater profit from them. A few acres of good land richly manured and highly cultivated, would support their families comfortably. And there is scarcely any soil, but which, by these means, would give a prudent man a decent living. And that farmer in this state who will not give his attention to this subject, cannot reasonably expect any great profits from cultivating the earth, nor to become respectable in his profession.

STARCH WATER.—This liquid is obtained at the starch factories, at the rate of 25 cents per barrel. It is considered the cheapest, and next to corn, the best food to fatten hogs. It is used in New-York for this purpose.

FINE BLUE FROM INDIGO.—The blue vat of the dyer, says the Franklin Journal, contains indigo deoxidized by protoxide of iron, and rendered soluble in its yellow green state by lime water. If a portion of this solution be exposed to the air in a shallow vessel, the indigo will speedily absorb oxygen, and be precipitated in its usual state of an insoluble powder. This being dried and digested, becomes pure indigo, the most valuable of all blues for the use of miniature painters in particular.

COOKING FOOD FOR CATTLE.—Count Rumford has stated that by the result of actual experiment, it appears that for each pound of Indian meal employed in making a pudding, we may reckon three pounds nine ounces of the pudding; and that three quarters of a pound of molasses, one ounce of salt, and three pounds of Indian meal, mixed with five pints of boiling water, and boiled six hours, produced a pudding weighing ten pounds and one ounce. This additional weight is derived from the water; and since water, either in its uncombined or combined state, is the principal food of both animals and vegetables, why is it not economy to boil the food for cattle? Every farmer should endeavor to contrive some economical method of cooking food for his live stock.

[*From the New-England Farmer.*]

ADAPTING PLANTS TO SOILS.

The following valuable remarks, from the pen of MRS. AGNES IBBETSON, a lady celebrated for her agricultural and economical skill, are extracted from the Bath and West of England Society's Papers:

I have been lately much employed in endeavoring to show that all plants should be divided, disposed or placed according to the different soils, congenial to their habits, from which they originally proceed; and it is to the total inattention to this circumstance, that we probably owe the very strange and contradictory results constantly to be found in all agricultural reports. No person can read with attention the late accounts delivered to the House of Commons, respecting the growth of corn throughout the kingdom, without being struck with the contradictory returns transmitted of the whole; and without being convinced that there must be some hidden cause for such a strange diversity in the gains of the *farmer:* as there are many instances adduced in those reports of the same excellent management, where the same seed has been sown, an equal degree of labor performed, with the same *season, time and manure* employed, and one farmer has gained three times as much again as was expended for putting in the crop, while another has scarcely exonerated and repaid himself for the labor and seed; what then could be the cause of the loss of the latter, and the gain of the former? It must, I am convinced, be owing to the agreement or disagreement of the plant with the soil in which it is placed, its situation and aspect; three things of which the farmer knows but little, or ever takes into his calculations. He has but one way of putting in plants, *loading the earth with manure.* But to adapt the plant to the soil from which it originally came, to *suit* also the *manure to both* that they may exactly agree, and not injure the vegetable; that the situation of the plant may be consulted, with respect to humidity and dryness; and that to complete the whole, the *aspect* also may be fitted, so that the plant that *loves* the *sun* may be exposed to it, while that which prefers the shade may receive it: these are attentions truly wanting to our agricultural system, as I hope to show.

It has been a subject of considerable inquiry among agriculturists, as in what consists the food of plants. Some have attributed it to water, some to earth, and others to air. To all these sources vegetation is indebted; the fertilizing principle of all manures is referable to the extractive matter arising from decomposed animal and vegetable recrements, and in this state soluble in water, which is the carrying medium into the vegetable substances. Vegetables in general will not grow in pure earth, or pure water; some plants are so organized as to require only mechanical support from the soil, abstracting their nourishment from the atmosphere by means of their leaves; whilst others from their roots depend upon the soil for their support. Although many plants will grow in different soils, yet they have all their favorite ground; and it is more easy to accommodate the plant to the soil than to adapt the soil to the plant. By knowing, therefore, what sort of plant the farmer is going to put in, he may of course be regulated with respect to the quantity and species of manure required, the aspect wanted, and the degree of humidity and dryness requisite for the plant. All plants came originally from a peculiar earth; either from clay, sand, gravel, chalk, or loams formed from a mixture of some of these, or from a very wet or dry soil; and though many plants will grow indifferently in several species of earth, yet they have all their favorite ground, *that* which they *evidently prefer.* Now to make the soil fit for the plant, is certainly a very expensive thing; but to adapt the plant to the soil, is not only an easy and expeditious mode, but one which requires infinitely less assistance in dressing, labor, seed, and care of every kind. It is true that all cultivated plants demand some manure, because nature gives not salt and oil *enough in any earth,* to do without *some assistance* of this kind; but the plant that is natural to the soil requires infinitely less than that which is adverse to it, and may therefore be cultivated at a quarter of the expense. Now nature is so bountiful, that there is scarcely a plant necessary to the food of man and animals, that, if we choose with care, has not *one peculiar sort,* calculated for *every soil.*

Nature has been bountiful in plants peculiarly adapted to *agriculture,* and in which there are *quite as many species* fitted for *poor land,* as for *rich land;* and if planted in their own soils, give an infinitely *greater return,* and are not subject to those *dreadful disorders* but *too common* to plants placed in improper ground. I have repeatedly traced maladies arising from this source, that tainted the very means of life in a vegetable; and being constantly accustomed, when I heard of any extraordinary crop, to proceed to the place, and inquire thoroughly into the causes and management made use of by the farmer, I have generally found the success to proceed from accidentally putting the plant into that ground from which it originally issued, and manuring it according to the quantum of juices it received from the earth, and with that matter likely to form a proper compound adapted to its wants: in short, attending to the right rules of vegetable economy, and the common process of nature.

But I am sorry to say, that, in manuring the innumerable farms, *diversly situated,* I have but too often found this order reversed; the chalk plant put in sand, the sand plant in clay, and so on: and what is still more, the watery plant put in dry ground, and the dry vegetable in a wet soil; and in all these cases they cannot fail of making a very bad crop. A plant accustomed to a poor soil, placed in a good one, *rots;* while the one which prefers a *rich loam,* is starved in a *poor one.* A clayey plant put in sand, is blown out of the earth, for want of those *retentive powers* the root is used to; while the sand plant, placed in clay, decays at the root from the under moisture which it cannot bear. The chalk plant, also placed in gravel, is destroyed by its own *acidity,* which is *no longer subdued;* for most plants, if the farmer do not grudge the making of the soil, he may certainly do it, but it can never answer in point of expense. It is a strange mistake, and a most fatal one, that almost all, even *some* of our *best gentlemen farmers* fall into, viz: that they cannot manure *too highly.* Now this is so completely the cause of innumerable failures, that I am most anxious to censure the practice. It always reminds me of the account given by Miller, of what was done in the *West Indies,* when some botanists were desirous of bringing over some fine plants of *cactæ* species. They inquired not what the plants *were,* but wholly inattentive to their being *rock plants,* they put them into tubs of the richest soil they could procure; the *plants all died:* but this was looked upon as an accident, and the same process again followed, when one of the casks breaking they concluded that the plants must die, as the earth had left them; and flinging on them some dry sand which happened to be in the way, ordered the casks down to the hold, when to their great astonishment the plants so treated *lived,* while those in the other cases died as usual. This opened the eyes of the gardeners with respect to rock plants; but to this day sand plants, instead of having a poor soil, generally receive a rich one. There is not a more ruinous effect than that produced on the plant of a poor soil placed in rich ground.

[*From the American Farmer.*]

PRESERVING APPLES.—Dr. T. Cooper, in the *Domestic Encyclopædia,* says apples may be preserved by putting a layer of apples, and a layer of dried fern, [brakes] alternately in a basket or box (the latter is considered best, as it admits less air,) and cover them closely. The advantage of *fern* in preference to straw, is, that it does not impart a musty taste.

PREMIUMS OF THE JEFFERSON COUNTY AGRICULTURAL SOCIETY.

In our notice of the Fair of this Society, in the last number of the New-York Farmer, the *Premiums* awarded were accidentally omitted.

ON HORNED CATTLE.

E. Kirby, Brownville, for the best Bull.
Abel Sherman, Rutland, 2d best do.
Josiah Richardson, Watertown, 3d best do.
W. Palmer, Le Ray, 4th best do.
Willard Ives, Watertown, for the best working oxen.
Curtis Golding, Pamelia, 2d best do.
F. Tyler, Rutland, for the best one year old steers.
H. Sherman, Rutland, do. 2 year old do.
E. Henry, Champion, do. 3 year old do.
Daniel Tallcott, Adams, for the best bull calf according to age.
Z. Larned, Rutland, 2d best do.
H. Money, for the best one year old heifer.
Elias Everitt, Watertown, 2d best do.
Oliver Pierce, Pamelia, 3d best do.
Daniel Eames, Rutland, for the best heifer calf.
John Sherman, Rutland, for the best 2 calves.

ON SHEEP AND SWINE.

George Van Ness, Pamelia, for the best ram.
Stephen Gifford, Watertown, 2d best do.
Jonathan Webb, Brownville, for the best four ewes.
Daniel Parker, Watertown, for the best boar.
Enoch Eddy, Pamelia, 2d best do.

ON HORSES.

A. Newell, Watertown, for the best seed horse.
G. Ives, do. 2d best do.

ON COLTS.

Amos Blodgett, Watertown, for the best sucking colt.
S. Marvin, Watertown, for the best yearling colt.
N. W. Kiniston, do. do. 2 year old colt.
R. Gates, Pamelia, 2d best do.
S. Knapp, Brownville, do. 3 year old do.
A. Baker, Watertown, 2d best do.

ON LEATHER.

J. Fairbanks, Watertown, for the best side of sole leather.
Hiram M'Kee, Sacket's Harbor, do. upper leather.

ON PLOUGHING.

Anson Shaw, Brownville, for the best ploughing with man and horses.
Anson Hungerford, Watertown, do. 2d best do.
William Cole, Brownville, for the best ploughing with man and oxen.
Timothy Hungerford, Watertown, do. 2d best do.

ON DOMESTIC MANUFACTURES.

John Collins, Watertown, for the best 12 yards of Woollen Cloth, not less than ¾ths of a yard wide.
Seth Bailey, do. 2d best do.
Elnathan Mattison, do. 3d best do.
Widow Warner, Champion, for the best 15 yards of Flannel of Domestic manufacture.
Andrew M'Comb, Brownville, 2d best do.
Cynthia Golden, Pamelia, 3d best do.
James Brown, Champion, for the best Carpeting not less than 25 yards.
Cyntha Hale, Rutland, 2d best do.
Nathaniel Salsbury, Brownville, 3d best do.
John Gotham, Watertown, for the best 25 yards linen cloth.
Daniel Eames, Rutland, for the best 15 yards linen diaper.
Mrs. Finney, Watertown, 2d best do.
Seth Peck, Watertown, for the best cheese, not less than 20 lbs.
David Granger, Champion, 2d best do.
Abner Graves, Watertown, 3d best do.
David Granger, Champion, for the best Currant Wine, not less than 10 gallons.
Maj. S. Brown, Brownville, 2d best do.
David Granger, Champion, for the best 25 lbs. Maple Sugar.
Chas. E. Clarke, Watertown, 2d best do.

A TORNADO IN THE VALLEY OF THE MISSISSIPPI.

A writer in the American Journal of Science gives an excellent article on the Origin, Extension and Continuance of Prairies. The extract on the tornado will be read with interest:

We have stated that hurricanes and whirlwinds, by their inroads upon the forests, are chiefly instrumental in forming prairies.

It is believed that hurricanes are not so frequent and so violent as formerly. For the last 25 years particularly, they have diminished in number and energy. The signs of hurricanes, previous to the year 1805, would indicate in their case, a frequency and violence unequalled in any subsequent period.

In the year 1805 it happened to the writer to be roving on that most beautiful lawn, extending from Kaskaskia to Illinois, and which is called the American bottom.—There was the most charming alternation of prairie, and woodland, and while he was musing on the cause which gave rise to forests of grass, or cane, and of stupendous oaks and cotton woods, he was roused, and his attention directed to a scene of unequalled grandeur and horror. It was a whirlwind that had crossed the Mississippi, and was making its way through the swamp, until it was near the charming prairie, which at that moment afforded rest and comfort to a solitary pedestrian. By the irresistible force of the wind, whole forests were in a moment twisted from the ground, and when thrown from the mouth of the vortex, such was the violent collision of tree against tree, that they were pounded into billets and splinters. A sound of universal distress burst forth from every quarter, and earth and sky appeared to be blended. In a twinkling the tornado scooped up a lake, with two or three feet of mud which lined its bottom.—In one instant more, it tore away a house with its stone chimney. In another moment thirty or forty horned cattle, and fifteen or sixteen horses, disappeared with inconceivable quickness. The whirlwind twisted off almost every spear of a wheat field, and bore it away with the fence, cattle, horses, lake, trees, houses, and whatever was in the way. For more than a mile the heavens were black, and filled with the wreck of the tempest.

In this tornado, as well as many that had before occurred in these countries on a smaller scale, there was nothing to justify a belief with Mr. Dunbar, "of a vortex with a central spot in a state of profound calm;" or of Dr. Franklin, who supposed the "vortex of a whirlwind to be a true vacuum."

From the lake to the house was about two hundred yards, between which stood a huge cotton-wood tree of at least seven feet in diameter, and more than one hundred feet in height. It was observed when the vortex had nearly or quite reached the tree, that the leaves and limbs began to point upwards, and at the same instant of time they were crushed, and ran together, which gave the appearance of a mock body, by which the trunk seemed to be extended; but immediately the trunk was twisted from the stump, leaving about ten feet above ground, when, with a quickness, that the eye could not follow, all ran through the throat of the vortex, and was thrown out to float with others in the regions above.

There was remaining of the stone chimney, about one foot above ground, and not one of the stones removed was to be seen. Whether they were carried up in the vortex and thrown out by the circular impetus of the air, and deposited beyond the reach of observation, we were unable to determine. The water and mud of the lake were deposited on the field which contained the wheat,

and from thence to the wood-land beyond the prairie in the direction of the tornado, was about three miles; on which land there were to be found only the bodies of two of the horses and five or six of the cattle. This mighty wreck was seen to pass to the north-west of St. Louis, more than twenty miles above the plantation.

[*From the New-England Farmer.*]

CABBAGES.—It is asserted in Dr. Rees' Encyclopædia, that "cabbages possess the property of fattening cattle not only more expeditiously, but in less proportion than turnips; an acre of the former having been found to fatten one in four more than the same extent of the latter crop."

Mr. John Townsend, of Andover, Conn. recommends the following mode of preserving cabbages. "Dig a trench about six inches deep, in dry ground, and wide enough to admit the head of the cabbage; lay two sticks parallel with each other on the bottom of the trench, for the heads to rest on, to keep them from the ground; place the heads on the sticks with the roots up, and surround them with straw; then cover them with earth six or eight inches deep, having the ground sloping to carry off the rains; they will come out in the spring sound, fresh and tender, as they were when gathered."

Cabbages should not be pulled till there is danger of their freezing too fast to be got up. If there happen to fall an early snow it will not injure them. If room can be spared, it is a good plan to take them up by the roots from the field or garden, and set them out again in the bottom of a cellar, the cooler the better.

[*From the Spirit of Washington.*]

MANUAL LABOR.—As a branch of education to our higher seminaries, manual labor is attracting public attention and winning converts to a belief in its great utility. The developement of the physical as well as the mental powers, in order to make the whole man symmetrical and well balanced, has been too long neglected. It was not thus in ancient days. Happily for the cause of education, the prejudices which resulted from the superstitions of the dark ages, and the reactions of the Protestant reformation, are being dispelled, and a just medium, or a combination of mental and intellectual developement in the formation of man, is beginning to reassume its proper importance.

The Lane seminary about two miles from Cincinnati, where there are about 90 students, has connected with it a farm of about 110 acres, which is cultivated by the students, and from it their tables are supplied. They have also workshops for those who prefer that kind of exercise; and for all in rainy weather and in winter.—Each student is required to work three hours every day, either on the farm or in the shops.

It is said by men who have experience in this mode of education, that greater proficiency is made where labor to such an extent is combined with study; and that dyspepsia is a stranger to such schools.

Why can they not be introduced in this country? We think they may, and with great advantage.

[*From the New-York Gazette.*]

MONTHLY STRAWBERRIES.—Mr. P. Furey, gardener, corner of Sixth Avenue and 17th street, is now exposing for sale in front of the Exchange a great number of the monthly strawberry plants. The culture of this delicious fruit has, within a few years, received the attention of gardeners in this vicinity. We are acquainted with one individual who devotes his whole attention to their culture—has several acres of vines, and notwithstanding the unfavorable season, sold upwards of a thousand dollars worth of Berries, the produce of his own garden. We hope Mr. Furey may be well rewarded for his attention to this description of plant.

RURAL ITEMS.

One of the advantages of periodical publications is the variation, not only in the style and matter, but the length of the article. We sometimes, but very rarely, hear our subscribers complain that our insertions are not sufficiently long and elaborate. Others more frequently say, give us short, useful and pleasing items.

DUTCH HABITS.—The Dutch are very fond of intersecting their gardens with canals and ditches of stagnant water. In the East Indies they adopt the same practice even in hilly districts, thus rendering that hot climate still more unhealthy. Houses on eminences are surrounded at great expense by moats and draw-bridges, like those of their native flat country.

PARADISE.—A distinguished writer compares a modern park and pleasure grounds to Paradise. Milton's description of Eden is in accordance with the present taste, and not with that existing when he wrote.

ATTACHMENT TO NATIVE SCENERY.—In speaking of the gardens of Babylon, G. Mason relates the following instances of fondness for native scenery. "This laborious experiment," says he, "was a strain of complaisance in King Nebuchadnezzar to his modern queen, who could never be reconciled to the flat and naked appearance of the province of Babylon, but frequently regretted each rising hill and scattered forest she had formerly delighted in, with all the charms they had presented to her youthful imagination. The king, who thought nothing impossible for his power to exeeute, nothing to be unattempted for the gratification of his beloved consort, determined to raise woods and terraces even within the precincts of the city, equal to those by which her native country was diversified."

EXTRAVAGANCE IN FLOWERS.—Nero, the Roman emperor, endeavoring to surpass his predecessors in their attachment for flowers, spent at one supper upwards of 4,000,000 sesterses, near 150,000 dollars, for roses.

PLEASURE GARDEN OF VIENNA.—The Augarten Garden consists of ten acres, and was formed by the Emperor Joseph, for the accommodation of all classes. The Prater is an extensive promenade where all Vienna assembles in the evening. The Emperor, Francis the Third, unattended, and in the plainest garb, selects his table and rush-bottomed chair, and calls for his coffee and segar, like any other citizen. This garden is considered one of the most agreeable on the continent.

EQUALIZATION OF PROPERTY is, it is said, unfavorable to extensive gardens, but not to neatness, beauty, and profit. In no country are gardens more neatly kept, and rendered more profitable, than in Switzerland, where there is a comparative equalization of property.

THE SWEDES, whether elevated by birth, or enlightened by education, are, says Hirschild, estimable friends of beautiful nature and of gardens. A taste for flowers, however, is not common in Sweden; a farmer prefers to occupy his garden with tobacco rather than the finest flowers. The Swedes are considered successful operators in gardening.

RUSSIAN GARDENING.—About a century ago, there was scarcely such a thing as a garden known in Russia; but for the last fifty years there have been more pine apples grown in the neighborhood of Petersburgh than in all the other countries on the continent put together. Still the taste for gardening is not, by any means, common in Russia. Most of the head operative gardeners are foreigners, assisted by boors or slaves, who are very imitative and docile. On the estates in the Ukraine, the freed slaves dig sitting and smoking.

FREDERICK the Second, of Germany, was passionately fond of fruit. He introduced the best varieties, and cultivated them on walls, espaliers, under glass, as well as in the open garden. On his death-bed he inquired about the ripening of one of his pine apples.

Superstition.—We, of the present age, think the Romans must have been superstitious, when, on the authority of Democritus, we are informed that a woman with her hair loose, and barefooted, going three times around beds of turnips infested with insects, will destroy them. There are nations, at the present day, equally as superstitious as the above.

Rural Culture by the Monks.—The sovereigns, during the dark ages procured the pardon of their sins by bestowing on the Monks extensive tracts of country, and thus encouraged their zeal for rural improvements.

Eras in French Gardning.—In the eighth century, that of Charlemagne, when the best fruits, vineyards, and orchards were introduced; of Louis XIV in the middle of the 17th, when splendor of design marked the taste; and of the Revolution when botanical and scientific knowledge increased.

French Gardeners.—The operative gardeners in France are represented to be ignorant compared with those of Great Britain and Germany—work harder and receive less pay. They do not learn their trade by regular apprenticeship so commonly as in England and other countries. We but seldom meet with a regular French gardener in the U. States—seldom, compared with the number of French who emigrate to this country.

Landscape Gardening in Germany.—The climate and circumstances of Germany are considered less favorable for landscape gardening than in England. There is an inferiority of pasturage, extent of space is too expensive, and the culture of legumes and fruits is too important.

French Authors.—It is remarked that the French have written better on gardening than they have practised. This arises from the concentration of wealth and talent in the capital, and from professional reputation, which depend most on what a man has written than on what he has done.

Vegetables of France.—With the exception of the sea-kale and the potatoe, culinary vegetables in France have not increased within the earliest period of horticultural history. In sallads and legumes the French excel most other countries; in the cabbage tribe, turnips, and potatoes, they are not equal to the moister climates of Britain and Holland.

Dutch Nurseries.—The fruit and forest tree nurseries among the Dutch are so frequently removed that a fasciculus of fibrous roots is formed. For local planting in particular, fruit trees commonly bear one or two years before they are sold. Ready-grown hedges, and shrubs of various sizes and shapes, can be purchased. If this practice prevailed in this country, there would be more hedge fencing.

Taste for Flowers in Holland is thought to have originated, in the 12th century, by affording patterns for their ornamental linen and lace manufactures.

Pleasures of Gardening.—Mrs. Hofland observes that our most endearing and most sacred associations are connected with gardens; that our most simple and refined perceptions of beauty are combined with them. The Prince de Ligne, after sixty years of experience, affirms, that the love of gardens is the only passion that augments with age.

Fruit among the Romans.—At the summit of the Roman power the fruits cultivated included almost all those now in culture in Europe, except the raspberry, currant, gooseberry, pine-apple, and orange. They were acquainted with many of the methods of culture now practised.

[*From the Baltimore Patriot.*]

Grapes.—The editor of the Baltimore Patriot acknowledges the receipt of a basket of grapes from Dr. Norton, of Richmond, Va. consisting of the "Woodson" and "Cunningham," native varieties, which the Doctor introduced into his vineyard from Prince Edward county, in that state. The Woodson is a red grape, the berry a medium size, between the chicken and the large fox; the bunches very compact and weighing about 4 ounces; *free from pulp*, a rich flavor. The Cunningham is a black or deep purple, covered with bloom; the bunches ragged and irregular, (in this, resembling the chicken grape,) berry a little less than that of the Woodson, *free from pulp*, and rich in saccharine matter; the skin thick and leathery. The latter resembling in flavor and richness the Herbemont Madeira, and both are decidedly very superior grapes, both for the table and wine. Each of these grapes has but *one seed*, and that a very small one.

[*From the Portsmouth Journal.*]

Butter.—Two farmers, from a town near the centre of New-Hampshire, each carried 2 or 300 lbs. of Butter, to Newburyport, a short time since, for sale.

Their farms were close together, and as nearly alike as possible. Their pastures were similar, and the number of their cows the same. Yet the one sold his butter quick, at 19 cts. The other, after offering his all round, at the stores, made out to get 13 cts. The *difference* between the lots of butter, [look to it, farmers' wives and daughters!]—was simply this,—one farmer had a good Dairy woman on his farm, while the family of the other made bad butter.

To take out Grease Spots from a Carpet or any other Woollen Cloth.—Dissolve a piece of pearlash of the size of a pea, in half a teacup of warm water; or a piece twice the size in a full teacup.

Pour some of the solution on the grease spot, and continue to rub it hard with a clean brush or woollen cloth until it is nearly dry, and your carpet or garment will be as clean as ever. I have tried it repeatedly, and found it effectual.

TEAK TREE.

Treasury Department, Sept. 18, 1832.

The Secretary of the Treasury has received some seeds of the *teak tree*, recently brought from Calcutta by Capt. Land. The great value of the timber particularly for ship building, renders the introduction of this tree into the United States an object of interest. And in hope that it may be successfully cultivated in some of the southern parts of the United States, a few of the seeds will be transmitted to any gentleman who may be willing to make the trial.

CULTIVATING TULIPS.

The situation of the beds for full grown flowering bulbs, should always be in an open, airy, part of the garden; the common soil must be taken out the full dimensions of the bed, to the depth of about eighteen inches, and the place filled up with good sandy loam, from an old pasture, (which should be dug at least four months before it is used) mixed with a small portion of well-rotted two-year-old horse-dung. The bed must be raised three inches above the paths, at the outsides, and four inches, at least, in the middle of the bed; this convexity will render it more capable of casting off the water, when exposed at any time to heavy rain. The bed being thus formed, the next thing to proceed to is planting; the best time for doing this is the beginning of November; plant the bulbs about five inches from each other in the rows, and the same distance from row to row, being careful to put in each hole a little fine river sand, before you introduce the bulb; this will not only be of great service to the root, but will also greatly prevent their being attacked by the grub and wire-worm. The depth they must be planted is about four inches.—[London Horticultural Register.]

HORTICULTURAL TOUR IN EUROPE.

We have often introduced to the consideration of our readers, the importance and utility of travelling, to young farmers and gardeners. The following from Loudon's Magazine, may serve as a specimen of the observations that should be made.

Every young gardener of the present day ought to travel abroad; and if two or three join company, so much the better. There are useful hints as to the how a young gardener of small means is to manage this, in the Encyclopædia of Gardening; but pecuniary difficulties are not so great as may be imagined. An attentive and careful young man could and ought to have saved £80 by the time he is 24 years of age; and with that sum he may remain three months on the Continent; and in that time have been a week in Paris (long enough to see carefully all that is useful to a gardener there,) have seen some of the South of France, the best of the Alps, most of Italy, and returned through Germany, Belgium and Holland.

From nearly such a tour I have just arrived; and although it was not made with any particular view to horticulture or natural history, I beg to offer a few scattered observations, made at the time, on those subjects; conceiving, that, although not very valuable,they may elicit better from others, or excite a desire to travel in those who have never before felt it.

The best mode of management for standard roses I have seen is that of Mr. M'Cabe, gardener to Mr. Lefroy, near Dublin. A long cemicircular hedge of sweet and dog briar, partly surrounding a parterre, is cherished into strong upright shoots, a succession of which is constantly maintained; these are budded, and those that die are immediately replaced by building on the vacant stocks. When in bloom, it is quite a kaleidoscope of roses, of all hues and sizes. But to return: I am sorry to say the French nurserymen are not the most liberal: good carnations they have, therefore good seed; but good seed they will not give to an Englishman, if they know him to be such. I myself got some seed only last year, from Rouen, which professed to be wonders: it produced a fine crop of single clove pinks.

The road between Rouen and Paris is not very remarkable. The hedges are clothed luxuriantly with the Clematis Viticello and Bryonia alba, plants which grow freely on similar calcareous soils in Britain; but many others, unusual in England, grow by the wayside. Flax is not an uncommon crop in Normandy, but the Indian corn is seldom seen, and never in perfection more northerly than sixty miles south of Paris.

Four years ago, the entire road from Rouen to Paris was a *chaussee*, always a bad though a lasting kind of road; now nearly half of it is macadamised, and well too; a welcome system of improvement.

How much finer, in some respects, the entrance to Paris, by any of the boulevards, is, than even the finest of the entrances to London! How much finer the long rows of stately elms, and luxuriant robinias, with quiet pathways,

> "A pillar'd shade, with echoing walks between,"

and the houses retired behind them, than our rows of lath and plaster boxes, with little courts before them, just large enough to hold a few barrowfuls of gravel, and contain two or three fantastic and unmeaning beds of common flowers; every one laid out somehow different from its neighbour; almost all ugly, and, viewed *en masse*, producing no effect whatever of harmony or grandeur.

This taste probably arises from our national churlishness. We are unwilling to yield the smallest private or exclusive right, for the common gratification of ourselves and others. It will probably be said, the damp of our climate is such, that rows of trees would keep the road in bad order and the pathways constantly wet: the noble lines of lofty elms that dignify the quays of Amsterdam and Rotterdam, where there is much traffic, and in a damper climate than ours, are a proof to the contrary.

Why not, at least, make the trial in some of the new streets laying out about London? Even if the trees should have to be cut down, their timber would pay the expense of the experiment.

It is strange the common robinia [R. Pseud-Acacia L.] is not as much used in England, as a forest tree, as it is in France. None can be more easily propagated. It could be obtained from the Continent yearly, is abundantly hardy, and singularly beautiful. When arrived at twenty or twenty-five years of age, it flowers freely, even in Ireland.

It is true, it is brittle while young, but when old enough for the wood to have hardened in the heart of the tree, it will stand the worst storms; and while young it can be supported, as it always is on the Continent.

Jardin des Plantes.—There is nothing peculiarly new at the Jardin des Plantes, and it has been often described, but the discovery by, I think, M. Turpin, of a large quantity of pure oxalate of lime in botryoidal (bunch-of-grapes-shaped) masses in the centre of an old "Cereus Peruvianus," which had been many years in the garden.

There is a sad want of verdure and leafiness on all the inside plants in the Continental gardens, arising from the dark houses they are nurtured in, their being indiscriminately put out under a burning sun in summer, and but sparingly and irregularly watered, and fire heat applied the whole winter.

It will be long ere the gardens of the Continent can vie with those of England in horticultural preservative structures, chiefly owing to their inferiority in the manufacture of iron; but I should think a clever English artisan in this branch would get full work in Paris and the departments. There have been considerable additions of Australian plants to the Jardin des Plantes since I visited it, four years ago, but not many of other kinds.

Much might be said of the publicity of such institutions as this in France, and their exclusiveness in England; but much has been said, and the evil is the same: so that I fear it is connected with our national character; and, until that is changed, the exclusiveness will remain.

The last expedition to Algiers has enriched the garden with a large number of lions and tigers, noble specimens.

I was fortunate enough to see the waterworks play at Versailles the day after the commemoration of the "Trois Journees" [three days] of July, 1830.

Unless the gardens at Versailles are filled with an immense crowd, and the waterworks playing, they are the very abode of dreary splendor. Nothing can be conceived more melancholy and monotonous: this, I think, chiefly arises from the great space seen over at once, and the perfectly symmetrical arrangement. In fine, every thing, individually, at Versailles is costly and fine; and, viewed as a national production, is worthy the "grand monarque;" but, with few exceptions, it presents more lavish expense than good taste. Amongst those few exceptions are the orangery, and the back façade of the palace. There are some orange trees of great size, and of remarkable fine form, in the orangery, said to be above four hundred years old: their trunks are about nine inches in diameter.

Although the public gardens of Paris so abound in orange trees, the Parisians have but little advantage of their delicious odor when in flower, as all their blossoms are sold annually to the perfumers. The new suspension bridge over the Seine, the "Pont d'Arcole," although not strictly a gardener's concern, is worthy of notice. Instead of the chains passing over two piers, one on each side of the river, and the bridge thus consisting of one catenary and two semi-catenaries, there is one pier built in the centre of the river, and the whole bridge consists only of two semi-catenaries; thus, when this construction is practicable, about one half the cost of the bridge is saved.

In passing through the interior of France, on the road to Geneva, the small and narrow strips of land into which the law of inheritance divides territorial property are very remarkable. Whether this is advantageous or not is, I think, to be questioned. The want of a rural population and of a resident gentry is too obvious: the whole country

is, as it were, a waste of agriculture and forest, scarcely any pasture, and almost no country houses. A striking difference between the scenery of the Continent, and that of Britain, is, the total want of thore frequent crystalline brooks, which beautify and fertilise our land, and the want of which will ever prevent Continental scenery from wholly pleasing an English eye. Either there are large rivers, or there is no water at all. As the distance from Normandy increases, the rich and florid Gothic architecture of the ecclesiastical edifices gradually disappears, and gives way to a disagreeable mongrel between it and the marble-faced classical Italian fanes.

I know not if it be merely fancy, but I imagine there is a constant increase of hilliness from the northern coast of France to the foot of the Alps. At Poligny these Alps first rear their fronts against the traveller, and over the tops of Jura the road leads on to Geneva. Perhaps the panorama that in an instant bursts upon the astonished eye, at the commencement of the descent of Jura, is not equalled by any in Europe. At once, as if by the drawing up of the curtain of a theatre, Lake Leman, blue as the sapphire, with its dark foreground of pines; the whole High Alps, with their stormy summits; Geneva, Lausanne, Vevay; countless villages and villas, in luxuriant vine-clad valleys, appear. The road, as it winds down Jura, has been constructed with admirable skill, showing the view in all points, and never letting it be lost sight of for a moment, although in a thick pine forest.

The Rhone, at Geneva, is some 70 feet deep, but so exquisitely clear, that a pebble may be seen in the bottom at that depth; but, seen with its surface at a small angle, to the eye it appears of a most beauteous transparent blue: this, some assert, arises from the lake's waters being actually colored; but the transparency of the waters *en masse* disproves this. The fact is, it arises from the color of the bottom, which, being of the same substance as the neighboring side of Jura, a calcerous tufa, is nearly white; and the blue of the sky is thus reflected with such singular beauty. There is a great number of English residents near Geneva, and every thing bears the appearance of wealth and comfort. The climate is delicious, the oppressive heat of the Swiss valleys being attempered by the lake; and the highest cultivation prevails.

On the smooth bosom of the lake, on each side the everlasting Alps, the quiet sail wafts us on our way to Villeneuve, "as with a noiseless wing."

> "Lake Leman woos me with its crystal face,
> The mirror where the stars and mountains view
> The stillness of their aspect, in each trace
> Its clear depth yields of their far height and hue."

Martigny shall be our head-quarters in my next.

PRUSSIAN ASPARAGUS.

Seeing in this market abundance of Prussian asparagus, I send you threepence worth, and shall be glad if you will let me know how you like it. I had some boiled, and placed upon a toast with melted butter; but none of my family admired it, nor do I like it myself.—W. W. C. Bath, June 5, 1832.

We had long been curious to know what this Prussian asparagus was, and we now find it to be the flower-spikes, when about 9 inches long, of the Ornithogalum pyrenaicum L. This plant is found wild in pastures between Bath and Bradford; between Bath and Warminster; three miles from Bristol, on the way to Bath; near Charleton, in Somersetshire; and half a mile from Chichester, Southgate, in a meadow. It appears to be gathered in the fields, and brought to the market at Bath. There were about a hundred spikes in the bundle sent us by our correspondent: we cannot say that we liked them, though others of our family did; and, indeed, as they appear to be perfectly wholesome, the liking or disliking is a matter of no consequence; for there can be no doubt that habit would render them as the cultivated asparagus. Were this the case, there would be a great advantage in cultivating the Ornithogalum; because depriving it of the part to be eaten would strengthen the plant, instead of weakening it, as in the case of the common asparagus. As O. pyrenaicum is by no means scarce, we hope some of our readers will try what can be done with it. We have no doubt the whole plant may be increased in size by proper cultivation. We are equally clear that the flower-stalks of other species of Ornithogalum, such as O. pyramidale and nutans, might be eaten; and the bulbs of umbellatum, it will be reccollected, formed the "doves' dung" of scripture, and have been eaten from time immemorial by the Persians. Probably many of the hexandrous plants, both stalks and roots, might form edible vegetables as agreeable as those which we are now in the practice of cultivating.—Loudon.

TRANSPLANTING EVERGREENS.

Mr. James Stuart, in the memoirs of the Caledonian Horticultural Society, gives the following directions:

"The pits are to be prepared from 5 ft. to 8 ft. in diameter, and from 2 ft. to 3 ft. in depth; rather wider at the bottom than at the top, and the earth, taken out and placed in two heaps: the one, surface, or good soil, fit to put about the fibrous roots; and the other, subsoil, to be partly used, and partly carried away. Before removing the plants, tie up their lower branches, and draw a circle on the earth, round each plant, in proportion to its size. Plants of 6 ft. or 7 ft. in height "will require a circle 3 ft. in diameter; and taller plants a proportionally larger one. Next, carefully dig a trench about 2 1-2 ft. on the outside of the circle, and to such a depth that its bottom shall be 6 inches below the roots of the tree; carefully paring round the circle, so that the ball of earth may be preserved entire. When the ground is of a sandy or gravelly nature, it will be necessary to begin at the bottom of the bulb, and wrap it closely round with hay ropes till you come within 3 inches or 4 inches from the surface. As sandy or gravelly ground has a tendency to fall from the roots, it will be necessary, in order to prevent this, to raise the plant gently on one side, to place under it a little straw, and to bind this with hay ropes; and then to raise it on the other side likewise, and secure it in the same manner. In order to lighten the ball as much as possible, pare off a little earth from the top of it, to the depth of the surface roots. That the plant may be safely conveyed to the place intended for it, you must be provided with a deal-bottomed handbarrow and truck. The mode of getting the plant on the barrow is, by raising it on one side, pressing in the edge of the barrow, and sliding the plant gently on till it be fairly balaneed."

In placing the plant in the pit, "lay the steels of the barrow 15 inches or 18 inches over the pit," in which there should be two men ready to receive the plant; and then "let one or two persons raise the other end of the barrow to such a position that the plant may slide gently into the centre of the pit." Being placed upright, fill in round it the best part of the surface soil; and when within 3 inches of the surrounding surface, put in decayed leaves to the depth of 3 inches. After this, cover up the whole with the inferior or subsoil taken from the bottom of the pit, forming a basin round the plant for retaining water. Tread in the soil a little, if it should be found necessary; but depend chiefly upon watering, for consolidating it about the roots. From ten to twenty large pots of water should be immediately given, according to the size of the plant and the quantity of loose earth in the pit. If the weather should should prove dry afterwards, the leaves should be watered in the evenings. Mr. Stuart has planted evergreens with success at all seasons; but he considers the last three months of the year best, when the weather is mild.

Hot Water for Cream.—Judge Buel observes, if the milk pans are put in water simmering hot, by which the cream, in the coldest weather, rises in twelve hours after the milk is taken from the cow. The milk pans re-

main in the water about thirty minutes. The churning of such cream does not occupy more than twenty-five minutes. The butter has invariably been of good quality.

AGRICULTURE OF THE WEST OF SCOTLAND.

We recommend to our readers the following remarks of Mr. Loudon, editor of the London Gardener's Magazine, made during a gardening tour in Scotland. His observations in reference to plantations of timber, are in many respects very applicable to this country.

In the Agriculture of the West of Scotland, the cultivation of turnips in rows has been carried to a very high degree of perfection; insomuch, that thirty tons per statute acre of Swedish turnips are usually calculated on, when the soil and weather are tolerably favorable. Carrots and mangold wurtzel produce generally within one or two tons of the same quantity, and common turnips and potatoes from two to five tons more. One principal cause of this enormous produce is unquestionably the moisture of the climate: but, at the same time, much is owing to the culture, which is very perfect. The rotation, on most soils, is, 1st, turnips, potatoes, or other herbage or root, crop drilled, the dung being buried, in the drill, or naked fallow: 2d, barley or wheat, with clover and rye-grass; 3d, clover and rye-grass fed off, or the first crop mown for hay; 4th, pasture: 5th, pasture; and 6th, oats. Round Kilmarnock, a great quantity of annual and perennial rye-grass seed is raised, and this crop is reckoned on a par with one of oats, in point of exhausting the soil. Iron ploughs have almost every where been substituted for wooden ones, and the saving is considered great, on account of their extreme durability. They were introduced about twenty-six years ago, and there is not a single instance of one of them being worn out. Finlayson's harrow, invented in the neighborhood of Ayr, by a farmer of that name, an ingenious and excellent man, who, unfortunately, did not live to see the effects, and reap the fruits, of his invention, is also very generally used; and we have been informed by several farmers, and particularly by our esteemed friend, Mr. Tenant, of Shields, that, in consequence of employing this implement, they never plough their turnip, potato, or other fallows, more than twice; viz., in preparing the ground, to break up the stubble; and, before sowing or planting, to form the drills. In naked fallows, the plough is only used at first breaking up, and in turning in the manure before sowing. Stall-feeding is general, both for fatting cattle and for milch cows; but the latter are always turned out to pasture a portion of every day. Under-draining with tiles, in what is called the Essex mode(that is, putting drains in every furrow, or in parallel lines from 12 to 20 ft. apart, in order to carry off the water from soils having retentive sub-strata), has been introduced, and most extensively employed, by the Duke of Portland, on his large estate, reaching from the seashore, at his harbor of Troon, to and beyond Kilmarnock. The same principle of draining has been practised by Mr. Buchanan, at Catrine: but the drains there, instead of being laid with tiles, are filled with small stones within a foot of the surface; in our opinion, a much more effective and more durable mode. Mr. Buchanan has also turf-drained moss, or peat bog. The covering turf, or surface spit of the bog, is dried in the sun during one summer, previously to using it, till it has become charred, and insoluble in water; and this turf being broader than the bottom of the drain (Ency. of Agr., 2d edit. fig. 651. p. 709.), is rammed into it, so as to form an arch. These drains are cheap, require no carting on the moss, are effectual for the end in view, and are found to last for a long time.

The Field and Roadside Hedges, in most places in the west of Scotland, particularly in Ayrshire, are exceedingly well-managed, being trained so as to form a body of verdure from 3 to 4 ft. broad at the base, from 5 to 7 ft. high, and from 6 in. to one foot wide at the top. When pruned, they are always cut upwards with a knife or bill, are never clipped or cut downwards. The estate of Mr. Oswald, at Auchincruive, is, in this respect, as in most others, a perfect model for landed proprietors. In Dumfriesshire and the stewartry of Kircudbright, the hedges by the roadsides are frequently planted in dwarf walls, which are backed up with earth (as the caper plant is about Marseilles and Toulon), so as to spring up from the face of them, and form hedges over their tops; a practice suitable for districts abounding in stones, because it saves all expense of cleaning the hedge when young, and insures a close-bottomed fence.

The Plantations, which have so much improved the general features of the west of Scotland, have three defects, more or less conspicuous. These are—too great a sameness in the mixture of trees, a want of variety of character in the outline of the masses, and a general neglect of thinning. The mixture consists almost every where of larch, firs, common pine, and round-headed trees: whereas, in low situations, with the exception of spruce firs, and some sorts of poplar and willow, round-headed trees only, or chiefly, should have been planted; and spiry-topped trees only, or chiefly, in very elevated situations. At all events, this may be considered as a sort of general rule, suitable for those who cannot apply a principle. We are quite aware that a great deal may be said in defence of the present practice: it may be alleged that the larches and pines are merely intended as nurses; that all of them will ultimately be removed; and that, whether the situation be high or low, no trees can be more beautiful. We shall not stop to enter into the details of both sides of these and similar arguments, but observe that the birch, the alder, the willow, and the poplar, will be found of as rapid growth, and the latter at least fully as profitable, in many situations, as the larch and the pine. The spruce fir, also, in cold, low, and wet lands, forms one of the most rapid-growing and profitable of trees. In all situations, neither very high nor very low, trees may be safely and profitably planted in masses, almost entirely of the same sort, without any nurses. With a knowledge of these facts, and some taste for general effect, a variety in the aspect of the plantations, on any one estate, may be easily produced, without any loss of profit, in bulk or value of timber, being sustained. Every considerate gardener will allow this; and we remind gardeners of it, much less in the way of finding fault, than as affording hints for their future guidance.

The direction of the boundary lines of plantations made on the sides of hills is of great importance, in respect to the effect of these plantations when seen from below. There is a character of greatness as well as of littleness, even in lines, though it would be difficult, in a few words, to describe in what that character consists. Lines which express grandeur are always simple; graceful lines are always varied. In order to produce a harmonious whole, the lines of a plantation should, in general, bear some relation to the lines formed by the surface of the ground on which it is placed. We say in general; because there may be surfaces, the natural lines of which it may be desirable to counteract by those of plantations; for example, the outlines of lumpish forms of surface, or dead flats. Straight lines, or lines gently curved, are more suitable for a flat country, than for the sides of hills; an undulating country should obviously have more undulating lines than straight lines; and a rough abrupt country more angular lines than curvilinear ones. Every one must feel that on the undulating sides of a hill, curved lines are more in concord than straight lines; and that varied curves are more graceful than unvaried ones. In some of the most extensive plantations on the hills and mountains of Cumberland and Westmoreland, as well as on those of Dumfriesshire and Kirkcudbrightshire, an artist's eye will detect deviations from the above principle, which the planter of taste should

mark, in order to avoid. However, we are too well satisfied to see plantations carried on extensively in any way in these districts, to be very fastidious about the details; and, therefore, having made the foregoing remarks, more with a view to the future than to the past, we shall pass on to our third defect,—neglect of thinning and fencing.

Whether a man prepares the soil properly previously to planting, encloses sufficiently, and prunes and thins adequately afterwards, is of much less consequence to the public than it is to himself. A plantation may be admirably adapted to the situation in which it is placed; may be planted with the proper sorts of trees; and may in its young state at least, be every thing that can be wished in regard to the improvement of the landscape, and yet afford little or no profit to the proprietor. With the profit, indeed, the public may be said to have very little to do: all that they are fairly entitled to criticise, is the general effect; and for that, and for that alone, neglected plantations are (all other circumstances being equal) for the first fifteen or twenty years of their growth, as good as well-managed ones. So much ground has been planted in the west of Scotland within the last thirty years, that there is not the least danger of a scarcity of native timber; there is equally little danger of a deficiency of surface for the culture of grass or corn; and therefore, if any landed proprietor chooses to ornament the country without benefitting himself, the country, so far from objecting, ought to be very much obliged to him. We can assert, without fear of contradiction, that there is not one proprietor in a hundred, in the west of Scotland, that prunes, thins, and otherwise manages his plantations as he ought to do, in order to make the most of them in point of profit during the first twenty years of their growth, and of both profit and beauty afterwards.* This fact, when considered in the abstract, seems almost incredible; nevertheless it cannot be denied, though in many cases it would seem difficult to assign a reason. An opinion that plantations cannot afford profit for many years after planting; ignorance of what is required; indifference on the subject; and a general dislike to cutting down trees, whether young or old, are reasons which very generally prevail. The last is carried to an extent which may be considered a diseased feeling; and is, in our opinion, most ridiculous. In Ayrshire, we found very extensive plantations, of from five to thirty years' growth, on one nobleman's estate, from which not a tree has been thinned since they were planted at the rate of five thousand plants to the acre. The mass has become impervious to either man or cattle; and, as timber or fuel, it would not, if now cut down, as the very intelligent gardener on the estate informed us, pay the cost of the trees, nearly four times the price, thirty years ago, that they are now, before they were removed from the nursery. On another nobleman's estate, in the same country, we found oaks in more than double the above number per acre, which we are informed it was never intended to thin, but to leave to grow up together, and choke and kill one another, in imitation of nature. We have no objection to this plan, provided it be not recommended as good, with a view to profit. A plantation composed of trees all planted or sown at the same time, can never be said to be a just imitation of a state of nature. In natural woods we find trees of all ages; and hence, the ease with which the stronger overcome the weaker, and acquire a timber size; but where all are sown or planted at once, and at equal distances, all are generally contending for what none can attain without the assistance of art, and the whole grow up together in a mass of etiolated rods, with only here and there a tree to be found which has attained a timber-like size. The only case in which this result does not take place, in an extreme degree, is when different genera of trees have been planted in mixture: in which case those of the most vigorous habits and rapid growth will overcome the others.

As contrasts to the plantations on the two estates mentioned, we may refer to those of Monkwood, near Ayr, in which the trees (each judiciously pruned so as to form a handsome stem, more or less clothed from the ground upwards) stand at proper distances; and the thinnings, as Mr. Smith of the Monkwood nursery informed us, have more than paid a corn rent, reckoning from the time the plantation was made. We may also refer to one or two others in Dumfries and Kirkcudbright shires, and especially to those at Closeburn and Terragles, as being profitably managed; though, in the latter case, and as, indeed, in most others that we saw, the trees are too closely pruned.

The publication of Sir Henry Steuart's Planter's Guide, has given a considerable stimulus to the transplanting of large trees; viz., trees of from fifteen to thirty years' growth, and from twenty to forty feet high. We could not help noticing the practice of some proprietors, who, while they neglect their young plantations or managed them improperly, could yet afford to expend time and money in transplanting large trees; which is about in as good taste and judgment, as if a man were to commence ornamenting the walls of his house before he had roofed it in. We have seen some parks in Dumfries and Kirkcudbright shires, and we could mention one in Ayrshire, recently sprinkled over with trees, in imitation of Sir Henry Steuart's manner, in superlatively bad taste. We recollect only one instance in which an attempt was made to group the trees, and to add shrubs to them; but the individuals composing these groups were placed too far apart, and the effect in consequence was in a great measure lost.

[*From the Northampton Courier.*]

Silk.—There may be seen at the Town Hall to-day, among the articles of American Manufacture, Silk in all its various stages of preparation, from the looms of Mrs. Shaw in Belchertown. There are 1200 skeins of Sewing Silk of all colors and beauty; 350 sticks Silk Braid; 66 skeins Silk from the floss or tow as it is called; 10 hanks of Silk, reeled upon the Italian reel, and many bundles reeled upon the American one; the difference is striking. There are also Silk Hose, made from raw silk and the tow also, a very firm and neat article. Mrs. Starkweather, of Northampton, also has some beautiful specimens of Silk Hose, wove in this town, and bundles of Raw Silk for exhibition. The cocoons in their various stages may be seen there also. We rejoice to see public attention turning to this practically useful branch of business.

The Blight on Trees.—Nothing is more common, in the beginning of summer, than to see the leaves covered with a blight; examine it, and you will see minute insects of a most delicate form: some are black, others green.

Insects on the Bark and Leaves of the Ash.—On the bark and leaves of the ash and other trees a small insect is found, inclosed in a dark spot, not larger than a pin's head; each spot serves as a covering for thirty or forty ova, which, on removing a fine silken covering, may be seen of a scarlet color; these turn to a beautiful little insect of the same color, but extremely minute, and it is pleasing to see them creep out of their cases.

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* We say profit and beauty afterwards; because, after trees have attained a timber height, much of their beauty, when collected in masses, depends on each tree having room sufficient to show the character of its head. Hence a wood, consisting of trees singly and in small groups, with underwood beneath, is almost always more beautiful than a grove consisting of trees only; because, in the latter case, the trees generally, even in the best managed groves, stand too thick.

SPLENDID ENTERPRIZE.

To the Editor of the New-York Farmer:

SIR,—The inhabitants of Lansingburgh, N. Y.—a charming village, seated on the east bank of the Hudson, three miles above Troy, and nine above Albany,—are now engaged, and with every prospect of success, in a truly splendid enterprize, and which, should it succeed, will immensely enhance its business, and insure a rapid increase of population. This plan is, to form a stupendous *water-power*, on the Van Schaick island, and to connect the *navigation* of the Hudson at that place with that of the *Canals*; and the *travel*, west and north, by a *road* across the island and the south branches of the Mohawk. The distance from the village of Lansingburgh to the Canals, a little north of their junction, is short of a mile. By a Canal across the island, with embankments, and a *bridge* over one of the south branches, the navigation may be provided for, and the road, as well as the mill power, with a fall of thirty-two feet, and four locks at the east end of the Canal. The ground is found to be highly favorable, and the excavation for the Canal will be very little more than sufficient to supply materials for the necessary embankments. Judge Wright, one of the most eminent and experienced of the engineers of our country, reports the water power as equal to the driving of two hundred thousand spindles; and the whole estimated cost of the works, for the Canal, Road, and Water Power, (except the purchase of the land,) at sixty-three thousand one hundred and sixty-one dollars. A Company is forming, stipulating for the purchase of forty or fifty acres of land on the island opposite the village, for the site of the hydraulic work; and there is every reason to believe that the works will soon be commenced. There is no location in the United States that presents, or can be made to present, advantages superior to this: and the only wonder about it is, that this plan should have been delayed until now. Lansingburgh, as you know, is just at the head of sloop navigation, and directly opposite the mouth or eastern extremity of the valley of the Mohawk, thro' which lies the Erie Canal.

S.

P. S.—The above article was written by Dr. Spafford some time before his death, and its publication delayed until the Company should be organized. The organization under its charter is now complete, by the election of a competent engineer, directors, and officers. The work is rapidly progressing, and promises to be of vast importance.

A. W.

Lansingburgh, Oct. 13th, 1832.

CURE FOR DISEASED FOWLS.

We recommend the following, transiated for the American Journal of Science, to the attention of our agricultural readers. Diseases are by no means uncommon among fowls in this country.

In 1829 an epidemic malady broke out among fowls in the vicinity of Paris. The disease spread rapidly, manifesting itself by an inflammation of the head, tears in the eyes, blueness of the skin, and the issue of blood from the beak. The animals soon sunk under it. Bleeding and other means of restoration were employed without effect. The author being consulted, directed the chickens which were still unaffected, to be placed in an enclosure by themselves, and those on which the disease had made some progress, in another enclosure. These places being then sprinkled with chloride of lime, the healthy fowls remained healthy, and the others were successively restored to health.

The same remedy was applied by M. Capliu, at Vaugirard. The healthy fowls were preserved from the epidemic, and the sick were soon restored.

The solution employed on these occasions was prepared by adding two ounces of chloride of lime to half a gallon of water, carefully mixing, filtering the solution, preserving it in well closed bottles, and using it as occasion required. The cause of this Epizootic was not ascertained, but it was perceived that the fowls which were confined in roosts exposed to the north were not attacked by it.

In a letter from M. Recluz, pharmacien at Vaugirard, it is stated that during an epidemic among the fowls at that place, it was found that those feeders who were careful to keep their fowl-yards clean, and who put clean straw in their roosts and stables, preserved their stock from the attack, whence it was inferred that the disease arose from the effluvia of putrefaction from the dung which was suffered to accumulate on the floors. In one instance fifteen fowls out of twenty-three had died of the infection and three more were sick. The yard or roost was then well cleaned, washed with common water, and then sprinkled twice a day with a solution of one ounce of chloride in a pint of water. From that time not a fowl died. Similar results were obtained by other persons, one of whom stated that when he commenced the use of the chlorides, all his fowls were sick, and from the time of the first sprinkling with it they all recovered. M. Recluz regrets very much that he had not had recourse to the same remedy in a disease among cows at Vaugirard. A single diary man lost nine of his cows in two months, without perceiving whence the sickness proceeded.

[*From the Baltimore American.*]

MANUFACTURING FLOUR.—A valuable improvement in the mode of manufacturing flour, in order to preserve it in a sweet and sound condition for a long period, has been for some time past in practical operation at the flouring mill of Nathan Tyson, Esq. on Jones' Falls. On various occasions in the shipment of flour to hot climates or to the distant ports in the Pacific, merchants have sustained material losses in consequence of the article having proved sour and unsound on its arrival out, in spite of all the care that had been employed in the selection of wheat and its conversion to flour. To obviate this difficulty is the design of the improvement of which we are now speaking, and the inventor, acting on the principle that by removing the cause the effect will also necessarily be removed, has erected on one side of his mill a furnace with drying cylinders, by means of which, after the flour is ground and bolted in the usual way, it is deprived of all its moisture—the substance which it is believed is the primary cause of its fermentation and becoming sour and hard. The apparatus is simple, economical and efficient, and the heat being applied externally to the cylinders, does its office without in any way affecting or altering the original flavor of the flour. As far as the article made in this way has been submitted to the test of experiment the result has been satisfactory. A small parcel has been sent to Rio de Janeiro and brought back again to this port, and is as sound and good now as at the time of its manufacture. The real value of the improvement can, of course, only be fully tested in a more enlarged field of experiment, and to a trial of this kind it is now submitting in a cargo of two thousand barrels, despatched on a distant voyage. Should the process be successful in furnishing so important an article as flour divested of its ordinary tendency to spoil, it will prove invaluable for the purposes of commerce. To our friends in the west, who send

their flour to the New-Orleans market, under the disadvantages of a long voyage and hot climate, it cannot be less important.

[*From the American Farmer.*]

ANEMONIES.

GREATFIELD, CAYUGA COUNTY, N. Y.
10th mo. 22, 1832.

A florist of this neighborhood purchased some Anemonies at Thorburn's, about a year ago, and made me a present of three roots, presuming that they were one or more of the numerous varieties of the *Anemone coronaria*. At the usual time of planting, these were forgotten; but finding them accidentally in the early part of summer, I set them in a shaded border, consisting of pit-sand and vegetable earth from the woods, and thought little about them for several months, except to keep the ground free from weeds. One month ago they began to flower with a splendor that has attracted the attention of every person who has visited the garden. The prevailing color is a light red, inclining to scarlet; the exterior sepals green, striped with red and white, but the bases of the interior sepals are white, with a stripe of this color often passing upward into the red. The flowers are double, sometimes proliferous, and often contracted on one side. I had observed some time ago that the leaves greatly resembled those of *Anemone hortensis;* but in the culture of the latter plant I have not been successful in the open ground, and it was therefore with some surprize that I observed the flourishing condition of our present plants. On examining them by Loudon's Encyclopædia, we foun l them to agree with *Anemone pavonia*, a native of France, and which is distinguished from *Anemone hortensis* chiefly by its "very acute sepals" and taller scape. Ours are from twelve to fourteen inches in height, the flowers two inches in diameter.

Though so late in the season, these plants show no symptoms of decline; new scapes are successively protruding from the crowns; and there is a fair prospect of their continuing in this state till the ground shall be frozen.

Will the Editor be so kind as to inform me if he has cultivated this plant: and also, if he has been successful in cultivating *Anemone hortensis?* D. T.

[The Editor of the American Farmer has never been able to succeed in cultivating the Anemone of any species. He has never seen the one described by "D. T." and would be glad to obtain a root of it.]

ROSES, PINKS, AND OTHER FLOWERS.—Among roses, pinks, and other flowers, a small insect may be found almost constantly; it is a little, long, nimble insect, the body like a wasp's with yellow wings.

A little insect likewise is found in what is termed the cuckoo spittle, or froth; it has very curious eyes.

A small white oblong insect sticks to rose-tree leaves, which turns into a little yellow locust.

There is also a curious insect on sweet-briar leaves in April and May, the horns of which are very remarkable.

THE PARROT.—About forty years ago, a very essential discovery was detected at Dublin, by means of a parrot. The Lord Mayor, with his suite, enforced a law of entering, unexpectedly, all the shops of that city so as to examine the goods, weights, measures, &c. Having once visited the shop of a baker, and the weight of the loaves found just, they were well satisfied and were leaving the shop, when a parrot that was in a cage, fastened at the window, vociferated, *Look in the cabinet! Look in the cabinet!* On hearing this the Lord Mayor and his suite entered a small room which they had overlooked, in which several loaves were found that were of unjust weight. They were immediately carried away and the baker punished.

[*From the Southern Planter.*]

MANAGEMENT OF SWINE AT THE SOUTH.—An extensive farmer in Twiggs county, has given us some additional particulars on this subject. He makes from 40 to 50,000 weight of bacon annually. His hogs roam at large till late in the summer. When his sweet potatoes and peas begin to get ripe, he has his hogs turned in upon them, one field at a time, and allowed to remain until pretty well cleared. They are then turned into another field, and so on. He never loses any of his hogs by this course—as often happens when fed upon peas alone—he thinks potatoes and peas preferable to either separate. A short time before killing, he puts them in pens and gives them corn. His hogs are the common breed. Has at this time about 350 head. He plants potatoes and peas in every field especially for this purpose.

BEETLES.—So great is the variety of the beetle tribe, that it would be impossible to enumerate them in the limited extent of these articles. They come from a grub, or maggot, deposited in the earth by the female.

THE DIAMOND BEETLE, *Circulio regalis.*—It is impossible to conceive anything more beautiful under the microscope than in this insect. It is found in the Brazils and other parts of South America, and is decorated with large, brilliant, gold-color patches, dispersed in rows over the wing covers, which are of a jet black: these patches owe their brilliancy to innumerable scales or feathers, and, through the microscope, exhibit the varying lustre of the most brilliant gems: these feathers are similar to those on the wings of the butterfly, &c.; a few may be placed on a piece of glass, and when examined with a high power, parallel lines will be observed, extremely fine, forming an excellent test of the goodness and power of a microscope.

THE CIRCULIO ARGENTATUS.—A male species of the diamond beetle found in England. It is about a quarter of an inch in length, and viewed with the microscope, exhibits a splendor of the diamond character, produced by a covering of scales of a beautiful gold-green color; it may be found in the fields and gardens, in the summer months, or on the leaves of trees, &c.

MITES, &c. IN SEEDS.—Various species of mites, and other curious insects may be found in the siftings of seeds, particularly a very peculiar one in those of the common poppy; this insect is furnished with two fangs of a very formidable description, having joints like the claw of a lobster. With these fangs it seizes its prey and conveys it to its mouth. I would recommend every person possessing a microscope to provide himself with some of these siftings.

[*From the Massachusetts Journal and Tribune.*]

FARMERS MAKE THE BEST PUBLIC MEN.—In a very clever little book for young people, called Louisa and her Cousins, we find the following remark: 'Good farmers have always been held in high estimation. I came across an anecdote, the other day, which proves that this was the case in very ancient times; it is related by Herodotus, who is called the Father of History. The inhabitants of the island of Miletus, in the Ionian Sea, having been for a long time afflicted with internal dissentions, at length solicited the interposition of the Parians, inhabitants of an adjoining island. When those whom the Parians selected to perform the office of arbitrators arrived at Miletus, finding the whole state involved in extreme confusion, they requested permission to examine the condition of the lands. Whenever, in their progress through the island, they found any lands under good cultivation, which, by the bye, did not happen in many instances, they wrote down the name of the owner. On their return to Miletus, they called an assembly of the people, and placed the direction of affairs in the hands of those whose names they found on their list of good

cultivators; because, as they said, those who took the best care of their own business, could be most safely intrusted with the public interest. These officers were appointed, and tranquillity restored.'

INJURIOUS ACTION OF GASES ON VEGETATION.

The French are distinguished for their interesting scientific researches. As an instance, we would refer to the following experiments made by M. Macaire.

At the suggestion of M. de Candolle, the author performed several experiments, to ascertain whether certain gases were equally injurious to plants by day as by night. Agriculturists have sometimes complained that certain manufactures injured the vegetation around them, whereas chemists who have been appealed to, have found from their experiments that the plants were not injured by the action of those gases. From the suspicion that their experiments were always made in the day time, and that the result might be different in the night, the following trials were made.

Plants of Euphorbia, Mercurialis, Senecio, Sonchus, and Cabbage, were placed, in the morning, in a large vase into which chloride of lime was introduced. The roots of the plants were immersed outside the vase. The quantity of chlorine disengaged was far from being sufficient to affect the vegetable tissue. In the evening the plants had not suffered, and the odour of the chlorine was natural. The same plants, without any addition whatever to the chlorine, were all faded the next morning, after having passed the night in the chlorine, except the cabbage, which had resisted its action. The odour of the chlorine had disappeared, and in the room of it a disagreeable acid odour was manifest. The experiment was several times repeated, with an increased quantity of chlorine, and with the same result; and the plants which during the day supported a strong atmosphere of chlorine, were always withered in the night by a smaller dose.

Nitric Acid.—With the vapour of nitric acid, introduced in the evening, the plants were found withered in the morning, some of the leaves being browned by the action of the acid. When the experiment was commenced in the morning, although some of the leaves were browned, the others were not withered.

Nitrous Acid Gas appeared to be a violent poison to plants, and killed them in the night by very small doses. Nevertheless, by day they were not sensibly altered, though the disengagement of gas was abundant.

Sulphuretted Hydrogen.—The same result precisely. Plants left in it during the night were all withered in the morning, although they were not in the least altered in the light.

Muriatic Acid Gas.—The same results. The plants do not perish by day, even when there is gas enough to brown one or two of the leaves. They are entirely dead in the morning, leaving the peculiar odour before mentioned. Cabbage is still an exception.

It appears, then, that several gases are injurious to vegetation, but that their action is exerted only in the absence of light, as M. de Candolle had foreseen.—Bib. Univ. Feb. 1832.

SHOE BLACKING.—It is stated in the Boston Traveler that the celebrated firm of Day & Martin, London, send to this country $100,000 worth of their Blacking annually; and give the following as the receipt by which it is made:—"To one pound of ivory black, in which has been mixed half an ounce of oil of vitriol and an ounce of sweet oil, add one pound of pulverized loaf sugar; mix the whole with a gallon of vinegar, and let it stand three days, when it is fit for use. It should be stirred often, and kept from the air to prevent evaporation.—The cost of a gallon of this blacking is about seventy-five cents."

VEGETABLE PHYSIOLOGY *in relation to Rotation of Crops; by M. Macaire. Translated for the Journal of Science and Arts, by Prof. Griscom.*

Our readers—those who have a taste for science—will peruse the following article with deep interest. The doctrine advanced is, in a measure, new, but yet supported by experiment.

In a memoir inserted in the transactions of the Societe de Physique et d'Histoire Naturelle of Geneva, this gentleman has developed some physiological facts, interesting to science and to practical agriculture.

A judicious rotation of crops is known to be a matter of great importance. One kind of vegetable (A) will grow and flourish well in a soil from which another kind of vegetable (B) has just been gathered, while an attempt to raise another crop of the first vegetable (A), or a crop of a third vegetable (C), immediately after the first (A), in the same soil, will be attended with little or no success. The discovery of this fact, which is almost as ancient as agriculture itself, is supposed to have led to to the practice of fallowing. A piece of fallow ground will, almost to a certainty, be covered with a crop of weeds. These being plants of a different nature do not unfit the soil, but prepare it for a succession of the same crop as that which preceded them. But science or experience has taught the enlightened farmer to substitute useful plants in the room of weeds, and thus to keep his grounds in profitable activity.

Various reasonings have been employed to account for the necessity of this rotation. 1st, That different plants absorb different juices from the same soil, and that a piece of ground exhausted by culture, may still be rich for another class of vegetables. But it is known to physiologists, that plants absorb all the soluble substances that the soil contains, whether injurious to their growth or not. 2d, That the roots of different plants being of different lengths, extend into different layers of the soil, and thus derive from it appropriate nourishment. But the roots of all plants, at the period of germination, must be in the same stratum, and of course be equally dependent upon it; and besides, the culture of the farmer turns up and mixes the various layers of the soil together, so as to render them, in all probability, homogeneous. It is known also that plants of the same family, such as clover (trefle) and lucerne do not prosper in succession, although their roots are of very different lengths.

The true explanation of the necessity of rotation, appears to be founded on the fact stated by Brugmans, and more fully exposed by De Candolle, that a certain portion of the juices which are absorbed by the roots of plants, are, after the salutiferous portions have been extracted by the vessels of the plant, again thrown out by exudation, from the roots, and deposited in the soil. It is probable the existence of this exuded matter, which may be regarded, in some measure, as the exerement of the preceding crop of vegetables, that proves injurious to a succeeding vegetation. It has been compared to an attempt to feed animals upon their own excrements.—The particles which have been deleterious to one tribe of plants cannot but prove injurious to plants of the same kind, and probably to those of some other kinds, while they may furnish nutriment to another order of vegetables.*

The author endeavored to subject these theoretic views to the test of experiment. After various attempts to raise plants in pure siliceous sand, pounded glass, washed sponge, white linen, &c. he decided upon pure

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*I have been assured, by farmers, of a fact somewhat analogous in relation to animals. Hay which has been left in the manger of a horse, or which has otherwise received the impregnatiens of his breath, will not be touched by another horse, but will be freely eaten by cows or sheep.—G

rain water. After cleansing and washing the roots thoroughly, he placed them in vials with a certain quantity of pure water. After they had put forth leaves, expanded their flowers and flourished for some time, he ascertained, by the evaporation of the water, and the use of chymical reagents, that the water contained matter which had exuded from the roots. He satisfied himself that this is the fact with respect to nearly all the phanerogemous plants.

Several plants of Chrondrilla Muralis, perfectly clean, were placed with their roots in pure water. At the end of a week, the water was yellowish and emitted an odor like opium, and had a bitter taste. Sub-acetate and acetate of lead produced a brownish flocculent precipitate, and a solution of gelatine disturbed its transparency. As a proof that this matter was the result of excretion from the roots, it was found that neither pieces of the root nor of the stem, when macerated in the water during the same time, occasioned either taste, smell, or precipitate.

To determine at what period, whether night or day, this discharge from the roots takes place, a plant of common bean (Phaseolus Vulgaris) was carefully cleaned, placed in rain water and kept a week during the day time in one vessel, and during the night in another, being well wiped at each transfer. In both fluids there were evident marks of excretion from the roots, but that in which the roots were immersed during the night contained a very notable excess of the transpired matter. Numerous other experiments gave the same result. As it is well known that the light of day causes the roots to absorb their juices, it is natural to suppose that during the night absorption ceases and excretion takes place.

To prove that plants employ (if we may so speak) the excretory power of their roots in order to get rid of hurtful substances which they may have imbibed, the following experiments were made. Some plants of Mercurialis annua, were well washed in distilled water, and placed so that one portion of their roots dipped into a weak solution of acetate of lead, and another branch of the same root into pure water. Having vegetated in this manner very well for several days, the water was tested by hydro-sulphuret of ammonia, which proved, by the black precipitate which it formed, that a notable portion of the lead had been absorbed and deposited by the branch which dipped in the pure water. Groundsel, cabbage, and other plants, gave the same result. Some plants grew very well for two days in acetate of lead. They were then withdrawn, their roots well washed with distilled water, carefully wiped, again washed in distilled water (which being afterwards tested was found to contain no lead), and then placed to vegetate in a vessel of rain water. In the course of two days, this water was found to contain a small quantity of acetate of lead.

The same experiments were made with lime water, which, being less injurious to plants, is preferable to lead. The roots being partly placed in lime water and partly in pure water, the plants lived well, and the pure water soon showed the presence of lime by oxalate of ammonia; and plants which had grown in lime and then transferred with every precaution to pure water, soon disgorged into it a portion of lime.

Similar trials were made with a weak solution of marine salt, and with a like result. Learning from M. de Candolle that marine plants, when transplanted in a healthy situation, frequently grow well at a distance from the sea, and that in such cases the soil in which they grow contains more salt than the surrounding soil, the author endeavoured to imitate nature by taking a few common plants, placing their roots in rain water, and wetting their leaves with a solution of marine salt. None of the salt was discoverable in the water: and it may therefore be inferred, either that solutions of salt cannot imitate the delicate process of nature, or perhaps more probably that soda plants alone have the power of absorbing by their leaves marine salt, and rejecting a portion of it by their roots.

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There can be no doubt, then, that plants have the power of rejecting by their roots soluble salts, which are injurious to vegetation. The author gives a few interesting details of experiments on some particular families of plants.

Leguminous Plants.—The only plants which he tried of this family were peas and beans. They live and grow well in pure water. After some time, the liquid, being examined, has no sensible taste—its smell is faintly herbaceous. It is quite clear and almost colorless in the case of kidney beans, (haricots,) more yellow in peas and common beans, (feves.) The fluid when examined by chemical tests, evaporation, &c. is found to contain a matter very analagous to gum and a little carbonate of lime.

It was found that when the water in which these plants had lived was pretty well charged with this excrementitious matter, fresh plants of the same species soon withered in it and did not live well. To ascertain whether this was for want of carbonic acid in the fluid, (which plants derive from the earth as well as from the air,) or from the presence of the excreted matter, which they repudiated, the author put into the fluid some plants of another family, and especially wheat. This lived well, the yellow color of the fluid became less intense, the residuum less considerable, and it was evident that the new plant absorbed a portion of the matter discharged by the first. It was a kind of rotation experiment performed in a bottle, and the result tends to confirm the theory of De Candolle. It is not impossible that by experiments of this kind results may be obtained of practical importance to agriculture. The author would infer that wheat may follow with great advantage a crop of beans.

Gramineous Plants.—Wheat, rye, and barley, were examined. They do not grow well in rain water, probably from the notable quantity of mineral substances, especially silex, which they contain, and which they cannot derive from pure water. The water in which they have vegetated is clear, transparent, without color, smell or taste. It contains some salts, alkaline and earthy muriates and carbonates, and only a very small portion of gummy matter. He thinks these plants reject scarcely any thing but the saline matters foreign to vegetation.

Chicoraceous Plants.—The Chondrilla muralis and the Sonchus oleraceus live very well in rain water. The latter acquires a clear yellow color, a strong smell, and a bitter taste. Treated with tests, and concentrated by evaporation, it is found to contain tannin, a brown gummo extractive substance, and some salts.

Papaveraceous Plants.—Plants of field poppy (Papaver Rhœas,) will not live in rain water; they speedily fade. The white poppy (papaver somniferum) lives very well. The roots produce a yellow color, a vinous odor, a bitter taste, and the brownish residuum might be taken for opium. This plant is one of those which neither the roots nor the stems cut into pieces and steeped in water, produce in it any of the changes which the growing plants communicate.

Euphorbiaceous Plants.—The Euphorbia cyparisias and E. peplus, are the plants from whose roots Brugmans observed the exudation of drops during the night. The author has not been able to verify this fact by direct observation. The plants vegetate well in rain water, giving a very strong and persisting odor. Boiling alcohol dissolves the residuum, and deposits by evaporation a granular, gummo resinous, yellowish white, very acrid substance, leaving a strong after taste.

Solanaceous Plants.—The only plant of this family which I have tried in water is the potato. It lives well in rain water, and puts forth its leaves. The water is scarcely colored, leaves little residuum, gives but little taste, which induces the belief this is one of the plants whose roots secrete little or nothing of a decided character. This however is the result of only a single hasty experiment made upon a plant at an early stage of its development.

The inferences which the author deduces from his experiments (acknowledging however that more extended

trials on a greater number of families and individuals are desirable,) are, 1st, that the greater number of vegetables exude by their roots substances unfit for their vegetation. 2d, That the nature of those substances varies according to the families of the plants which produce them. 2d, That some being acrid and resinous may be injurious, and others being mild and gummy may assist in the nourishment of other plants. 4th, That these facts tend to confirm the theory of rotation due to M. De Candolle.—[Bib. Univ. Mai, 1832.]

[*From the Horticultural Register.*]

ECONOMICAL PLAN OF GROWING APPLES, AND OTHER FRUIT.

Gentlemen,—I have seen what appears te me a very economical plan of growing apples, or indeed any other kind of fruit, in a kitchen garden, a description of which I send you, and if you think it worthy of insertion in your Register, it is entirely at your service.

The trees are planted on the edges of the walk, dwarfs and standards alternately, and trained horizontally, by means of arbor-poles, so as to form an arbor, which is as pleasant in hot weather, in a kitchen garden, as an arbor of flowers would be in a pleasure garden; and if the walk should be wanted for wheeling dung,&c. to the borders, openings might be left for that purpose. The arbor-poles would last as long as the trees would require support, for after the arbor is formed the trees will support themselves, the young roots being tied to the old stems, to keep the whole covered with good wood. If this plan was more adopted, and fruit-trees planted after this manner in orchards, the vegetables and small-growing fruits would have a more free air, and consequently be larger and better, than in the present way of growing them. In many inclosed gardens in England, the south side of these arbors might be made up of peaches and apricots.

How would an arbor look, the size of the gate-way, and as high as the orchard wall, at Chatsworth, down the longest walk from the end of the garden? If covered with fruit, I think it would have a good effect; and the ground would be completely saved.

In the event of spring frosts, as in May last, the ground being covered with stems and young shoots, a degree of warmth would be confined in the arbor, which would allow the blossoms inside to set, and make the crop of fruit more certain, than in the old method. The apples this year, I perceive, are all in the middle of the trees. I remain, yours, &c.

A POMOLOGIST.

ON THE DISTILLATION OF BREAD.—Finding it announced in the English journals, that alcohol is distilled from bread during the baking, and may be collected by condensing the vapour, M. Lejeune and B. Moncuse were induced to repeat the experiment. Having adjusted tubes of large and small diameter to the oven, connected them with a worm, and luted the mouth of the oven, they procured, from the baking of two hundred loaves, by means of the large tubes, about 50 litres (—13 1-4 gallons) of a limpid fluid, of a yellow colour, a sweetish taste, and emitting the odour of rye bread. Re-agents indicated the presence of acetate of lead resulting from the tubes of that metal, acetic acid, but not a trace of alcohol. When the distillation was performed through small tubes, the quantity of liquor obtained was but three or four litres. Surprised at finding no alcohol in the product, according to the statements of the English journals, the process was varied, but with the same result; and as a counter proof, a quantity of alcohol was placed in a vessel in the middle of the oven, but instead of a simple distillation, it was decomposed or absorbed by the materials, and the quantity of acetic acid was sensibly augmented. From this it may be inferred,

1. That the materials of an oven are too permeable to prevent the alcohol from passing through them.

2. That at the temperature of 300° cent. the alcohol, if it exist, is immediately transformed into acetic acid by the air contained in the oven, or that which percolates through the materials. Whether an oven constructed of iron plates would furnish alcohol, has not been determined, at least in France; and to prevent the disappointment into which speculators may be led, the writers were induced to make known the result of their experiment.

COMPOSITION FOR MENDING CRYSTALS, GLASS, PORCELAIN, AND CROCKERY.—Take half a pound of the curd of skimmed milk, wash it until the water comes from it limpid; press out all the water, mix with this washed curd the whites of six eggs, and to this mixture add the expressed juice of fifteen cloves of garlic; triturate the whole together thoroughly in a mortar, then add, gradually, powdered and sifted quick lime, in sufficient quantity to make a dry paste, and stir the whole until it is perfectly mixed.

To use this mastic, rub a small portion of it with a little water, on a piece of glass with a muller; when well rubbed, put it on the fragment to be mended, or in the crack to be filled, and fasten the parts well together, and let it dry in the shade. Vases and other valuable articles can be perfectly mended by it.

The mixture of curd, whites of eggs, and garlic juice, may be pulverized, mixed with an equal part of quick lime, and kept for use in a well-stopped vial. Such a mixture as this is kept for sale as an English article, in a shop in the Palais Royal, and is in demand.—Jour. de Connoi. Usuelli.

HOW TO BOIL POTATOES.—Few persons are aware of the necessity of skill or attention in this common operation. Potatoes should be cooked by steam, either by putting a small quantity of water in the pot, just sufficient to preserve an atmosphere of steam around the potatoes, or by introducing steam among them through a pipe from a boiler. Strict attention must be paid that they be not overdone. In general, from ten to twenty minutes of steaming are sufficient. Where the right point is attained, they are dry and friable, and easily reduced into meal. If the action of the steam is continued even a few moments too long, they become greasy, compact, and acrid, and are not easily mashed, which proves that a change of composition is commencing, which alters their qualities. It has been ascertained that potatoes which have been thus injured, or which are naturally acrid, may lose these qualities by the moderate and suitable operation of heat.—Id.

A GOOD HUSBANDMAN.—Let us for a moment visit the dwelling of a good husbandman. We find him in possession of a competency. Every thing about him is marked with neatness and order. His family is distinguished for industry, frugality and correct deportment. His mind, though not bred a scholar, is replenished with useful knowledge.

He knows enough of law to avoid litigation; enough of the human system to keep it healthful by diligent exercise, and by temperate habits; enough of morality and religion, to practice them. In the morning he rises with the dawn; calls his household round the family altar; pays his devotions to the fountain of light; and like the great luminary of heaven, he performs the duty of the day.

At mid-day and at evening, he returns to his house, where good order, conjugal affection and filial respect, bid him welcome. His labor done; the world at rest; at peace with himself and his God, he is ready for repose. His heart is an altar; his house a Bethel; and his family a church. If Satan broke into Paradise and blasted all its glories, he would meet a repulse on this consecrated spot.—[Moore's Address.]

Preservation against Rust, Dampness, &c.—A piece of linen or cotton cloth, steeped in a saturated solution of lime or sulphate of soda, and carefully dried, preserves from humidity and oxidiation delicate steel instruments, and also preserves parchment and paper.

Steel instruments may also be preserved in quick lime. A magnetic needle, suspended by a silk thread in lime water, undergoes no deterioration.—[Jour. de Connois. Uselle's tome 12, p. 89.]

How to Boil Rice.—The grains of rice when properly boiled, remain dry and loose, and are then much more sweet and wholesome than when agglutinated or partially converted into starch. To boil rice properly, add salt to the water, and when boiling hot, stir in the rice. Keep it boiling for twelve minutes by the watch, then pour off the water and set the pot on live coals during ten minutes. The rice is then fit for the table. [Silliman's Journal.]

Growing Potatoes in a Cellar.—A German paper has published the following account, communicated by the person who made the experiment.

"I covered a corner of my cellar with a bed an inch thick, of two-thirds of river sand, and one-third of common mould. In the month of April, I put into it thirty-two yellow potatoes, the peel of which was very thin, and placed them on the surface, without covering them either with mould or sand. They produced an abundant crop; for at the end of the ensuing November, I gathered above one-fourth of a bushel of the best potatoes, the tenth part of which were as big as an apple and the rest as a walnut. The peel was very thin, the pulp white and mealy, and the taste exceedingly pleasant to the palate. During the six months these potatoes lay under the ground, I used no culture whatever, and yet they grew without the influence of the sun or the heat of the day. This essay might be put into practice with advantage in fortresses, in houses of correction, and indeed in every dry cellar of large cities, where it is of great importance to have a wholesome and abundant food for a large population." [Br. Far. Mag.]

Collecting Swarms of Bees.—In Corsica the following method is employed for collecting swarms of bees. When the swarm comes out, a man follows them with an empty hive swung over his shoulders, the bottom and sides of which are rubbed over with lemon bark. He approaches the swarm and sprinkles it with lemon juice, with which he fills his mouth. The odor attracts the bees, and as soon as a single one enters the hive the rest follow.—[Idem.]

Horticultural Society of Charleston.—At a recent meeting, the following Resolution was passed.

"Resolved, That for the best Treatise on Practical Gardening, adapted to the latitude of Charleston, a piece of Plate of the value of Fifty Dollars to be offered on the following conditions, viz. The treatise to be based on the supposed case of an area of ground, of a half acre in extent which being unimproved, has consequently to be inclosed, laid out and cropped. The proprietor is desirous of cultivating not only Vegetables, but also Fruits in sufficient quantities for the use of his family, and to introduce a few Flowers. Each Treatise to be handed in to the Recording Secretary of the Society, on or before the 1st of June, 1833, sealed, and accompanied by a note containing the name of the author, which will not be opened until after a decision is made. Such as may be handed in, will be submitted to a Committee of the Society, appointed specially for the purpose, who will be instructed to unite with them a certain number of practical gardeners or gentlemen amateurs, in order to decide on the merits of the respective pieces. Every Treatise submitted and competing for the prize, will be considered as at the entire disposal of the Society. JOHN D. LEGARE,
Recording Secretary."

Reviving Plants, &c.—The London Mechanics' Register gives a method of reviving plants, &c., which may prove useful to those who wish to revive scion buds, &c. when their leaves and buds are faded, and their bark and roots hard and nearly dry. The directions are to dissolve camphor to saturation in alcohol, adding the former until it remains solid at the bottom of the latter; a sufficient quantity of rain or river water is then to have the alcoholic solution added to it, in the proportion of four drops to one ounce of water. As the camphor comes in contact with the water, for a short time the camphor will float on the water in small flocculi, but will ultimately combine with the fluid and disappear.

Plants which may have been removed from the earth and have suffered by a journey or otherwise, should be plunged into this camphorated water, so that they may be entirely covered. In about two or at most three hours, the contracted leaves will expand again, the young, faded, and dependant shoots will erect themselves, and the dried bark will become smooth and full. That being effected, the plant is to be placed in good earth, copiously watered with rain or river water, and protected from the too powerful action of the sun until the roots have taken good hold of the ground.

If plants thus treated, are not restored in four hours, their death may be considered as certain, for they cannot be recalled to life by any artificial means. They should, consequeutly, never be left more than four hours in the camphorated bath; because the exciting action of the camphor, when it is continued for a longer period, may injure the plants instead of doing good to them. It is not necessary to say, that the final prosperity of the plants thus reanimated by camphor water, must depend on the particular properties of the former, the state of their roots, and the pains that are taken with them. The camphor produces no other effect than to restore life to plants nearly dead: after that, all proceeds according to the ordinary laws, and their ultimate state must be left to art and nature.—[American Farmer.]

Potatoe Cheese.—In Thuringia and Saxony, potatoe cheese is made, which is an object of considerable research, as it has the advantage of retaining its freshness during several years, provided it is kept in close vessels.

It is thus prepared:—select patatoes of good quality, especially large white ones; boil them in a kettle, skin them and when cold reduce them to a homogeneous pulp; add a pint of sour milk to five pounds of this pulp, knead the mass well and keep it covered three or four days, then knead it again, and place it in small baskets to drain; lastly dry it in the shade and pack it in layers in pots or casks and leave it thus for a fortnight before using it. The older it is the better, as its quality improves by age.

The above proportions are most commonly used; but four parts of potatoes may be added to two parts of curdled milk, or even other proportions according to the taste of the manufacturer.—[Idem.]

Cultivation in Arabia.—"Although the Arabs cultivate the ground, they do not hold it in any fixed occupancy. The whole region is one immense common, over which the different tribes are in continual motion. When they come, at the rainy season, to a favourable spot, they sow it, wait about three months for its growth, reap the harvest, and proceed onward. The Fellahs, or fixed cultivators, are objects of their most profound contempt, and an alliance with them is considered as involving the deepest ignominy. [Gar. Mag.]

Planter's Guide.—We have received a copy of this work from the publishers, Messrs. Thorburn and Sons. It is splendidly executed. We shall notice it a large in our January number.

MIXING OF VEGETABLES BY THE ROOTS.

MR. FLEET—In the New-York Farmer for October, I noticed an article under the signature of the *Old Man*, in which we are told of horn carrots intermixing with blood carrots by the roots. I apprehend the *Old Man* is somewhat mistaken as to the mode of intermixing; I have known the Cicuta plant, the cabbage, and the poppy, all growing contiguous to each other without intermixing in the slightest degree—I have the mistletoe growing in the live oak 20 feet from the ground—I have known the plant called *live forever* hung against a dry wall, yet growing several inches without any root. It is said that the gardeners in England to preserve distinct varieties make use of fine nets to prevent bees and flies from carrying the farina of one plant to another while in blow. I would inquire of the *Old Man* whether he was perfectly sure that his seed were not mixed by setting two kinds too near each other? to me it appears impossible that they could intermix by the root, but by the farina it is often the case.

Yours, &c. R. M. W.

Yates Co. Nov. 24, 1832.

NEW-YORK VEGETABLE MARKET.—Nov. 30—We shall hereafter resume our former attention to the state of the market.

Since the disappearance of the Cholera, the prices of vegetables have risen; but the citizens generally do not buy freely.

APPLES.—The Russet sells at $1 75 per barrel; Spitzenburghs and Newtown at $2, Greenings at $3. Kidney potatoes command 44 cents. We observed handsome cauliflowers at 50 cents per head, and Broccoli at 6 to 15 cents. Hickory nuts and chesnuts are abundant, and command, the former $1 25, and the latter 1 50, per bushel. Most of the hickory nuts which we saw, were raised in orchards, in Orange County.

FIRES IN THE PRAIRIES.—It is difficult to conceive of the horror excited at the sight of a burning prairie. It is an ocean of fire, whose billows roll and heave, and run together, when the mountain of pyramidal flames ascends and drives detached bodies of fire seemingly into the very clouds. The whole horizon appears to be on fire; the earth and the sky are hidden by the flames, and the eye can reach no point beyond their boundary. When the wind is brisk, the burning grass ascends and gives the appearance as though the heavens were filled with firebrands; and such is the rapidity with which the flame moves over the face of the earth, that an attempt to escape, by the swiftest animal, would prove abortive.—Silliman's Journal.

CHLORIDES.—The chlorides of Lime and Soda are used to purify the rooms in which silk worms are fed. The gas should be but very slowly set free to prevent injury to the worms.

GEOLOGICAL SURVEY.—The Family Lyceum suggests to agricultural societies, the importance of geological and agricultural surveys. We fully accord in the opinion. Such surveys undertaken by competent scientific men, assisted by young farmers, would tend very much to promote a taste for mineralogy, geology, and various branches of natural history. We do not know of an association that could be more useful than an agricultural society composed of enlightened efficient and enterprising members.

VERSAILLES.—It is mentioned by Neill that the waterworks of Versailles, which are played off not more than eight or ten times in a year, cost near $1000 per hour.

GRAFTS OF FRUIT.

COLUMBIA, Pa., Nov. 26th, 1832.

Mr. Fleet: Dear Sir,—I now send you a box, care of G. Thorburn & Son, N. Y., through the Messrs. Landreths of Philadelphia, containing as follows:

Marked I. Ashmore apple grafts,
II. Winter Sweet Paradise, grafts and fruit,
III. Fallowater, grafts,
IIII. Zank, grafts and fruit,
Not marked. Summer Sweet Paradise, grafts,
Shenk's Pear, grafts,
Magnolia Glauca, } seeds.
Cornus Floridus, }

I. The Ashmore apple I have not seen the fruit of, but it is highly spoken of by James Mifflin, Esq.; and as he is the best Pomologist in this neighbourhood, his recommendation is considered sufficient. Originated in the lower part of York county, and ripe in Autumn.

II. Winter Sweet Paradise; this you will be able to judge of yourself—tree grows upright, and bears profusely.

III. Fallowater, a very large, red winter, and excellent eating apple.

III. Zank (German) literally contention apple; this you will also judge for yourself—the original tree stood on a division line between two neighbours, and owing to their continual disputes about the fruit it obtained the name by which I send it you, is excellent for cider, as well as the table, tree of slow growth, similar to the Hughes crab.

V. Summer Sweet Paradise; a very large greenish yellow, juicy, sweet apple, ripening in August, fine for eating, cooking, drying, &c.; the tree grows larg- spreading and with age drooping, bears well every se cond year.

Shenk's pear, raised from seed by John Shenk, about thirty or forty years since; it is generally allowed to be the best pear in this vicinity ripening at that time, which is in August. I have had them measure eleven and a half inches in circumference.

I have added the fruit of two var. of apples for your inspection, and the others, winter apples, I have no bearing trees yet, and none in the vicinity, or I should have sent you some also. They will however disappoint none who take the trouble to propagate them.

I ask as a favor of you to present a few of these apples of each kind, at a meeting of the Horticultural Society, and *let me know their opinion of them, whether favorable or otherwise.* If you consider them worthy of being sent to Europe, you may forward all these in this box, and I will send you a further supply in the Spring, for your friends, the members of the Horticultural Society, or any other persons who may wish them, provided you desire more, and will let me know in time.

Have you no friends at Rio, S. America, that will send you seeds from thence? (the Rev. R. Walsh, LL.D., &c. notices many interesting plants as growing there;) you might also, perhaps, obtain some from the West Indies, the Botanic Garden at Havanna, and different other places. The Ochras, Myrtus, Chrysophylus, Ficus, Zamia, and hundreds of others from those regions, would all be acceptable in this country. The cost will be trifling compared with the benefit to the country, and the honour of being the means of their introduction. It would, however, I think, be preferable for you to make some charge for seeds, at least sufficient to defray your expenses; in fact, I think such persons as are unwilling to *pay* for rare seeds, ought not to be entrusted with any, as they will scarcely take the trouble to give them a fair trial, and without a fair trial they had better be consigned to the fire at once.

Your's most respectfully,

JACOB B. GARBER.

Remarks. As soon as received we will dispose of the plants and fruit as requested. We ask no compensation for seeds and plants we may forward to those desirous of receiving them: the only conditions which we would wish to be observed are, that those who receive them should report their success; and to endeavour to keep up the spirit of reciprocation of new and useful varieties of fruit, and of ornamental plants. In a few days we will with much pleasure forward some seeds to our friend Garber; and will be glad to have more of his grafts, if the requisition is not too great.

WATER IN CULTIVATED COUNTRIES.

It is a common impression that streams decrease in size and number in cultivated districts. The following paragraph from Silliman's Journal advances a different doctrine.

"What more need we say, in support of our position of subterranean water courses, by the infiltration of water through the earth. A new or uncultivated country, whether clothed with grass alone, or with trees and cane, will imbibe all the water that falls upon it, unless where the country is based upon strata of rock, or the soil is very sterile; and indeed many of the rocky districts, particularly those of limestone, are apt to contain more subterranean than superficial streams. It is worthy of remark, that in settling all the country west of the Alleghany mountains, there was a very general want of water; whether it was in the limestone regions of Tennessee, Kentucky, and Ohio, or in the extensive prairies of Indiana, Illinois, and Missouri, or in the great cane brakes of our district; the scarcity of water was everywhere observed, and water was truly a desideratum. But as the settlements extended, with the introduction of cattle, the earth became more compact, and spontaneous vegetation less flourishing, which, by the increased firmness of the ground, caused the water to remain upon or rise to the surface; hence it was found, that streams of water multiplied with the increase and extension of cultivation."

After stating that the Mississippi has been and is enlarging, he judges, from twenty-five years of observation, that the Missouri must by and by discharge *twenty* times as much water as it does now.

From the New-England Farmer.

AGRICULTURAL ESSAYS, Nos. III. and IV.

ON LABOUR.

When I have been riding in the country in a very hot day, and seen farmers mowing and hoeing in the full blaze of the noon-day sun, the custom of those farmers with whom I was conversant when a lad, has immediately occurred to my mind. In the months of June, July, and August, they retired so early to rest that they seldom needed a candle to light them to their beds; and they rose as early in the morning as they could see to work. In the heat of the day, unless a shower or something extra called them to exert themselves, they laid aside their labours for an hour or two, and indulged themselves in a comfortable nap after dinner. This gave them fresh strength and vigour; and they went forth to the labour of the evening with spirit and pleasure. And if farmers would work as early and late as they could in the summer season, they might rest from eleven until two o'clock, and escape the intense heat and thirst of the day; and not be one-half so much fatigued as others, who begin their labour late in the morning, at six or perhaps seven o'clock, and who, to perform the labours of the day, must bear the heat and burden of it, and go to their beds at night exceeding weary, and quite exhausted. From eleven till two you may walk round your farm, stir hay, or do any light labour, without fatiguing yourself in the least. This walk will refresh your spirits, and may save your lands from the inroads of unruly cattle, sheep, swine, &c. Walls and other fences should often be inspected, if you wish to preserve the fruits of your labours; and half ar hour or more in the time and season of it devoted to this purpose, would not fail of being well rewarded. These hints may be improved on; and I close this paper by observing, that mowing and hoeing, both for comfort and profit, should be performed early in the morning and late in the evening.

EXCHANGING WORK.

Farmers who handle but little money, should be cautious of entering into cash engagements; they will find it more convenient to exchange labor, than to hire and pay money. Neighbors who have lands to break up, and teams to connect together, may do this business cheaper, by exchanging with each other, than by hiring help and cattle. It will often be found mutually beneficial to make exchanges even in mowing and hoeing. Through a difference in the situations and soils of farms, though adjoining each other, and through early cultivation in the one, and late in the other, it frequently

happens, that the corn, grass, flax, &c., on one, is forwarder and ripe sooner by several days, than on the other. In this case it would be prudent to unite their labors and not to hire; this would be almost so much saved. But then, these exchanges should never make any alteration, either in meats or drinks, in the farmer's family. For, if any extra provision is made, an extraordinary expense is incurred. The chief use of land, and that which makes it principally beneficial and profitable to a man, is this, it gives him employment; it is of very little advantage or profit to him who does not labor upon it in person. A farmer should therefore be cautious of hiring much help; and at no time more than he can fully and profitably employ and readily pay. And to do this, if he hires for a month, or for a year, he should endeavor to raise a surplusage of some one, or of several articles to the amount of the laborer's wages at least. And if he does this, even then, he finds that a year's wages are not easily paid; it will take off a considerable part of his corn, flax, dairy, or some other produce.

Those farmers who hire much labor done, will soon be convinced, if men of sense, that scarce any farm will yield six per cent, and keep up the necessary repairs; and that although they possess flocks and herds, and are the proprietors or owners of the soil, they are but little more than stewards to their laborers. And this should excite them to labor industriously with their own hands, and to do all they can within themselves. When diet and labor are scarce and dear, and a man has several farms, or more land to improve and cultivate than he can take care of, unless he hires a number of laborers, he should let, or put them to the halves, as it is called, to honest and industrious men, if he can find them. For, the difference between hiring laborers and boarding them, and letting or putting out a farm as above, the produce of which may amount to eighty or a hundred pounds, would be twenty, or twenty-five per cent in favor of the proprietor. And he will not have the trouble of providing for, and paying a number of people; some of whom, after all his attention and punctuality toward them, will not acknowledge themselves satisfied and contented. Good help, as it is called, is generally scarce and dear, and with difficulty obtained; and a farmer who hires careless, ignorant and slothful laborers, notwithstanding all his own industry, will never grow rich.

THE MOSS ROSE.—[*From the German.*]

The angel of the flowers one day,
Beneath a Rose-tree sleeping lay.
That Spirit—to whose charge was given
To bathe young buds in dews from heaven.
Awakening from his light repose,
The angel whispered to the Rose,
"O fondest object of my care,
Still fairest found where all are fair.
For the sweet shade thou'st given to me,
Ask what thou wilt, 'tis granted thee!"
"Then," said the Rose with deepened glow,
"On me another grace bestow."
The Spirit paused in silent thought:
What grace was there that flower had not?
'Twas but a moment—o'er the Rose
A veil of *Moss* the angel throws,
And robed in Nature's simplest weed,
Can there a flow'r that Rose exceed.

THE NEW-YORK FARMER.

NOVEMBER 30, 1832.

Visit to Newburgh. Sometime late in the summer, we cannot tell when, nor will the printers give us time to look up our memoranda to ascertain, we made a short visit to this flourishing village—situated, as all our readers know, on the Hudson, 60 miles from New York—amidst the mountainous scenery of the Highlands—within sight of West Point, which not now, but in the Revolution, was the key stone of liberty on earth—not now, for the preservation of our liberty lies not in the ramparts of terra firma, but in the more inaccessible and dark recesses of thought, or rather in the storms of passion which may hurry us on in the same course we have hitherto prosperously sailed, or drive us on adverse and dangerous shores where we may shipwreck a liberty in the western, and the hope of it in the eastern world.

Newburgh, like many other villages on the Hudson, is admirably situated for picturesque effect in gardening—rising from the shore too much, to be sure, for convenience, but not for health and scenery. The gardens and yards in the front of the houses give evidence of very considerable taste for both the ornamental and choice productions of horticulture. The dwellings are mostly new, or presenting a pleasing and bright exterior from being painted white. The advanced state of gardening in Newburgh, compared with many other villages, is undoubtedly to be attributed to the Horticultural Society which has been successfully sustained for a number of years, and to the nursery of Mr. C. Downing.

This is the only establishment we had time to visit, although there are several private gardens well deserving of notice, and which, at some future period, we hope to have the pleasure of bringing before our readers. The nursery of Mr. D. is a credit to himself, and a benefit to the section of country in which it is located. His modesty has kept the public too little acquainted with its merits. The extent of ground, the beauty of situation, the great care taken to have the best varieties of fruit plants that are true to their kinds, the correct principles on which it appears to be managed as a commercial garden, and the moderate prices demanded, entitle Mr. Downing to the patronage not only of those residing in the counties immediately adjacent, but from other and distant sections of the country. We were pleased to learn that the orders for fruit trees in particular, were as extensive as Mr. D.'s convenience would permit him to meet. This augurs well for the attention given to fruit in the adjacent counties, and shows the importance and benefit of local nurseries. The patronage for flowers and green house plants has not been equally encouraging. The only object which any one would take exception at, was a

very extensive grape vine arbor painted of a dull red. Running parallel to the river it would show more conspicuously, and serve to give a brighter and a more lively aspect to the garden, if painted white. We wish Mr. D. and his equally meritorious and not less modest brother and coadjutor, all the success which usually attends close application and correct principles.

The only object which we particularly noticed as presenting an incongruous sight was that of the burying ground, nearly in the very centre of the village.—The erection of decent white marble monumental stones showed that the departed were held in remembrance; but that these mementos of the dead should be almost entirely concealed by the most worthless weeds that infest our land, implied some strange inconsistency—presented an incongruity that is by no means reconcilable to good taste, and perfectly unaccountable except on the influence of custom, which, all the world knows, often permits, introduces, and confirms inconsistent notions, practices and habits. That friends should incur a very considerable expense in procuring tomb stones, and then allow them to be overgrown by thistles, poke-weeds, briars, nettles, and many other obnoxious weeds, and in the very centre of a flourishing village too, is most assuredly at variance with principles of correct taste, and by no means calculated to foster those recollections and tender feelings that render the remembrance of the dead soothing. The correctness of these remarks will, we trust, appear apparent when it is considered what a contrast would be produced if there should be an adjoining inclosure for the dead, which, in addition to the usual marble monuments, should present the appearance of appropriate flowers and shrubbery, rendering the whole sight pleasing, retired and lovely. How sweet would be the remembrance of such a place! How fondly, when in some distant and far away country, would the mind revisit the spot where friends lie in repose, and where even strangers would not allow noxious weeds to luxuriate on the soil!

We took a ride of some fifteen or twenty miles into the county. That portion, through which we travelled, certainly does not justify the observations of Mr. Fowler, an English tourist, whose remarks we have inserted in a former number of the Farmer. He speaks of the soil and improvements in Orange county, as inferior to those of the greater part of the state. He must have passed through the most barren and neglected portions of the county. We passed over a great variety of surface, and generally speaking, agriculture presented a condition quite considerably advanced of a majority of the counties in the state. In the vicinity of Washingtonville there was every appearance of thrift, and what is usually considered good management. We walked over a portion of Mr. Dederer's farm, which consists of about 500 acres of as rich and productive land and under as good management as many of the best farms in Dutchess county. It showed to a disadvantage from the fact that Mr. D. had a farmer's garden, in which there were more weeds than vegetables, and that there was almost an entire destitution of fruit and ornamental trees about the dwelling. Mr. D. however, has very correct views on the plan which an extensive farmer should adopt respecting his garden.—He is decidedly in favor of employing a regular gardener, who would be willing to make himself handy and useful about the barn and house—to attend to a portion of the stock, to keep every thing in order, to set out and prune timber, fruit and ornamental trees, and to employ all the leisure time in the culture of culinary vegetables. Such a gardener, he conceives, would very materially add not only to the appearance of a farm, but to its intrinsic value, as well as supply the family with an abundance of wholesome garden vegetables and fruit. Such a gardener he is disposed to employ, and is of the impression that many in the county would be glad to do the same. As far as his experience has given him an opportunity to judge, he apprehends a difficulty in this plan, from a disposition of many gardeners to be restless and seeking for higher wages, and of other farmers holding out inducements to gardeners of acquired reputation to leave their situation and come into their employment. As far as this practice extends, so far does it operate injuriously to the progress of horticulture and to all the parties concerned. Gardeners who act thus, stand in their own light. A feeling is too apparent among some gardeners to labor merely for the wages, rather than to identify their interest with that of their employers. If gardeners wish to obtain permanent situations, let them not be too particular on what they bestow their labor, and let them early give the impression, that they seek the interest of their employers rather than consult their own predilections.—The condition of horticulture in the country requires this sacrifice of even regularly bred gardeners.

Salt, a Remedy for Animal Poison.—The Annales de Chimie states that the Rev. S. G. Fisher cured all kinds of painful and dangerous bites of serpents by the application of common salt, moistened with water, and bound upon the wound. The pain from the stings of insects is removed in the same manner. It is thought from partial experiments, that the bite of rabid dogs may be rendered harmless by the use of the same substance.

Francis Huber.—This distinguished naturalist became blind when he was quite a young man. While the blessing of sight was enjoyed, his eyes met with delight those of a young lady, whose attachment to him, notwithstanding his blindness and the opposition of her

parents, was so great as to induce her to wait seven years until she became of age, and then married him.—By the help of her eyes and her pen to record his conclusions, he made greater discoveries in the habits and economy of the bee, than any other naturalist who preceeded him. His works remain a monument of his fame and her attachment.

REFLECTIONS.

In recalling the scenes of our boyhood, when we occasionally tugged and toiled in eradicating the obtrusive weeds in the garden, and the hated dock in the meadow, and the cheat and cockle in the wheat or rye —comparing our philosophizing in those days with that in later periods of life, we are led into a comparison of the vegetable with the moral world. In our youth we wondered, and perhaps murmured a little, at the creation of weeds, that only served to make mankind sweat and toil, and to vex their souls. Why, inquired we, did not the wheat grow and ripen free from tares and blight? Why did not the sweet smelling clover and timothy flourish without the hated dock, whose seeds are as numerous as the stars, and whose roots adhere to the earth like those of the young forest tree? Why were the lovely lily and the beautiful rose deprived of their nourishment, and their beauties undisplayed, by useless weeds, that are obnoxious to the sight, and connected with unpleasant associations? Why did not all nature present a uniform succession of rain and sun, a full development of Floral beauties, and a regular maturation of the Cereal harvest and the delicious fruit?

In later days we are led to inquire why the countenances of our fellow-creatures do not, like the morn, look lovely and serene? Why does yonder hoary-headed man indicate in look and mien the effects of mental distress and harassment of soul, instead, like the shock of corn fully ripe, of being gathered to his fathers in peace and repose? Why does that lovely, young, and innocent fair one, droop and languish like the half-developed lily, alternately pelted by storms, and marred in its beauty by frosts? The clover is sown, and the corn is planted, but no sooner do they spring into life, and smile under the genial warmth of the sun, than a contest for existence arises between them and the intrusive weeds, that like the struggling race of man are rising up and contending for sustenance, undermining by their roots, and depriving of light by their leaves.

How delightful would be the scenes of nature, how pleasing would be the associations connected with the vegetable world, if nothing but the varied beauties of the Floral kingdom, and sweetness and deliciousness of the Pomoneal tribes, were left the only rivals, instead of being repressed by the myriads of noxious and poisonous tribes that people the plain, the hill, and the dale! How lovely and pleasing would be society, if the virtues that beautify the characters of men were alone cultivated, developed in all their loveliness, and brought to a state of full perfection!

He who tills the soil must be wakeful, watchful, diligent, and persevering. He must expect storms that will destroy, chilling winds that carry on their wings blight and destruction, scorching rays of the sun that burn and consume. So he who expects to run his race among his fellows, must expect to encounter those storms of passion that harrow up the soul, those acts of neglect that chill and depress the spirits, and those cruelties that tend to consume the vital spark of life itself. Under these circumstances, he must wend his way along the journey of life, eat his bread in singleness of heart, thankful when he meets with a smooth path, ever ready to administer to the wants of his fellow travellers, and doing all he can to arrive himself, and to enable others to arrive at, those elysian fields, where no briars, nor thorns, nor blasts, nor storms exist, to cause sorrow and woe.

Such are the mingled scenes of beauty and deformity, of pleasure and pain, and of innocence and crime, which this world presents—a world imperfect in its parts, yet admirably and wonderfully perfect as a whole; imperfect when viewed in the darker aspect which fallen man presents, yet beautifully perfect when we discover by study and reflection that all things bespeak Omniscience.

Are we, then, to relax our exertions, because the luxuriant soil on which we labour is productive of vigorous weeds, that unmolested would endanger our bread? Because we till the glebe that yields a lean ear, shall we cease to dig deep for the mineral that sets the vegetative principles in action? No: let us all persevere—enrich and prepare the soil well, plant carefully and timely, cultivate diligently and judiciously, and with joy and resignation reap, whether the harvest rewards our labour with abundance or with leanness.

ERRATA.—In the Farmer, No. 1, of July, I notice several errors. In the communication respecting hard names, the word *on* is used instead of *out*. In the one respecting cabbages the words *animal* economy, instead of *family* economy. In the one on the subject of cellery, it is printed *thirteen inches*, it should be *three inches*. In the one respecting white-wash, it is printed *Mina's Journal*, it should be the *Miners' Journal*. Whether these are errors of the pen, or of the press, I know not, but be they which they may, they ought to be noticed in order to a right understanding of them. Yours, &c.

CARLO.

August 20th, 1832.

At page 349, the excellent article on Ornamental Plants should have had the signature of LANSINBURGH.

[*From the New-England Farmer.*]

ON THE PRESERVATION OF SWEET POTATOE SLIPS.

Mr. Fessenden,—I put up about two bushels of sweet potatoe slips for seed soon after digging last fall; they remained till the middle of April, when I examined them, thinking to find but a dozen or two to put into a hot-bed; to my surprise I found them nearly all in a growing state, with sprouts three inches long. I lost none by rot: all that were not sound were dried up. I packed four boxes, each containing about half a bushel—three in sand, one in plaster. The one in plaster did not preserve half a dozen; they were dried up to the size of a pipe-stem. I placed one box in a cupboard over the oven, one in a closet near the kitchen fire, and two on shelves where they received the heat from the furnace in my cellar. I could perceive no difference in them in the spring, with the exception of that in plaster, which was in the coolest place. I put up a barrel of them the year previous, and placed them on the bottom of a very dry cellar: they were all rotten before the winter was half gone; *the least dampness will destroy them.*

Northampton, Nov. 23, 1832. S. W.

[*From the New-England Farmer.*]

HOW TO RAISE THREE CROPS FROM ONCE PLOUGHING,

Viz. 1st, Turnips—2d, Rye—3d, Hay.

The 31st of July I turned over the sward of a piece of meadow which had been mowed the beginning of the month, because the hay was foul, owing to bad grass seed; rolled it down, and scratched the furrows lengthwise with a brush, in order to fill up the seams and smother the grass, which it did pretty effectually. On this acre I carted twenty-five horse-loads of fine dung, consisting of the coarse yard dung which was not fit for the field in April, having been stacked since that time, strengthened however by about a thousand white fish bedded in it in June. This was spread on the inverted sward, and mixed with the loam with an iron tooth harrow, lengthwise of the furrow, without upsetting it. On the 7th of August we sowed the turnips with a sprinkling of 25 bushels of ashes; they were hoed out on the 27th and 28th, after sowing on the same the usual quantity of rye and grass seed. I sowed a second half acre prepared in a similar way, adjoining the same, on the 18th; and when the tops were the size of a dollar, we sowed on the rye and grass seed as before. But these did not come up as regular as the first; and instead of hoeing them out, I had an iron tooth harrow run through to scratch in the seed, and some of the turnips where they were thick were thinned out, but where they were thin it pulled none up. They have grown so fast that I commenced pulling the largest the 15th of last month, many of which would not go into a man's hat; and even now, the last of which I am getting in to-day, will not sell on account of their size. I have gathered upwards of 280 bushels, and their size would have warranted 3 or 400 on the acre, had they come up equal, and the rye and grass now left to itself looks well.

I make this communication, not having heard or read of the mode, though I had tried it once before, in which the rye and grass succeeded very well, but there was a partial failure in the turnips for want of a higher dressing. I shall, if necessary, give a further communication of the result next year. On the remaining three acres of the four, of the same field, I sowed wheat with grass seed, tilled the same way, which looks well. I have already fed it down once.

N.B. The wagon (single) horse loads of dung are about equal in bulk to twenty-five bushels of ears of corn. I put 100 on the four acres.

There has been actually 300 bushels taken from the acre, and I shall pull many more small ones, left in the field, perhaps two cart-loads.

Bridgeport, Conn. Nov. 22. B.

[*From Loudon's Gardener's Mag.*]

We do not know that any of our readers will at present derive any practical benefit from the following article; but the time may come when the same method will be adopted by florists and by the ladies.

ON SOWING ANNUAL FLOWER SEEDS IN THE AUTUMN, IN ORDER TO HAVE THEM FLOWER EARLY IN THE SPRING.

Sir,—Permit me, through the medium of your pages, to call the attention of gardeners to the sowing of annual flower seeds in the autumn, in order to have them flower early in the spring. The superiority of autumn-sown lettuces and cauliflowers, is already well known, but not so (generally speaking) that of annual flowers. Notwithstanding, the latter is equally as worthy of attention as the former. I have followed the practice for several years, and have since read of it; but I never saw it till I began it myself, though I do not presume to think but that some others had done it before, though they did not give it the publicity it deserved. My method is this:—About the middle of September I sow such sorts as I desire, for instance, Schizanthus pinnatus and porrigens, Coreopsis tinctoria, China aster, *M*alope trifida, Gilia capitata, Commelina cœlestis, *D*elphinum sinense, Spanish pink, Clarkia pulchella, *H*ibiscus africanus, *V*erbena Aubletia, with many others, in pots in the open ground, or in a cold frame, and, when large enough, I prick them into other pots. If only to plant out in spring, a few in a 32-inch pot of each sort is sufficient. On the appearance of damp weather, I put them into a frame, and give all the air I can, without exposing them to the fogs or rains. If I am afraid of severe weather, such as I cannot keep out of the frame without too much covering, I remove them to an airy part of the green-house, where they remain till the beginning of March, at which time (if they have become too thick in the pots) I shift them singly into 60's, ready to plant out as soon as the weather is mild enough. When this is the case, I plant one in each place. I find that they will flower in far greater perfection than any sown afterwards in the ground, and in some sorts full two months sooner. If I have more plants than I want for the flower garden, I shift a few into 48's, and put them into some of the forcing houses, where they soon flower, and make a very pretty appearance at so early a period, as to allow me to have some plants of Schizanthus pinnatus and porrigens in bloom for the last month, and others are just coming into flower to succeed them.

May 3, 1832. I am, Sir, &c. R. T.

[*From Loudon's Gardener's Mag.*]

DESTRUCTION OF THE APHIS ON PEACH AND NECTARINE TREES.

By Mr. G. Jamieson, late Gardener to Mrs. Bulwer Lytton, of Knebworth Park, Herts.

Sir,—The peach and nectarine trees, when planted against walls having a south or south-east aspect, come into flower in the end of March, or the beginning of April; and in ten or twelve days afterwards they come into leaf. About this season we have generally cold dry winds from the north or north-east; and after these have prevailed a few days, the aphis generally makes its appearance.

As I have been very successful in the destruction of this pest of gardeners, it may perhaps be of some use to state my practice.

In the first place, water the tree over-head with a syringe or garden-engine; then put a quantity of gas tar into a flower-pot or any open-mouthed vessel; place it as near the tree as you can, without incurring the risk of the heat of the process to be described injuring the leaves. Then put into the vessel as many burning coals as will set the gas tar on fire, and in a few minutes a dense cloud of black fetid smoke will rise up, and, in a mild day, completely envelope the leaves of the trees. If the day be not mild, you must carry on the operation either under a temporary covering of mats, or wait till the wind blows either against the wall, or in the direction of it. The evening or the morning is the best season for this process; a very few minutes will suffice for each tree; and, as soon as the fumigation is over, the trees should be syringed, to wash off the soot and the dead insects.

I am, Sir, &c. G. JAMIESON.

Mr. Jamieson, we understand, practised this method at Knebworth with the greatest success; and he has no doubt that it might be employed in orchards on a large scale, instead of the present practice of burning straw. In North-America there are, in some seasons, immense flights of locusts, of some miles in length, and a mile or more in breadth. Might not a whole country unite in burning gas tar at the same moment, so as to destroy these insects *en masse?* There would be no danger to human beings who were content to keep close to the earth; because, all smoke being lighter than pure air, the latter would naturally gravitate to the surface. Considerable annoyance to an army entering a town, or to ships at sea, the wind being in a favourable direction, might no doubt be effected by the skilful management of so powerful a smoke, produced in such immense quantities, and so rapidly, from such a small quantity of materials. In the cities of Russia, it is the custom to disperse mobs, and quiet drunken people, by playing water on them with a fire-engine; in desperate cases, perhaps smoke would be preferable. For garden purposes, it would be very desirable to know the neatest, cheapest, and most commodious mode of generating and applying this smoke. Probably dry leaves of trees, or coarse paper, or tanners' bark, impregnated with gas tar, might be burned in a fumigator such as we have figured in p. 354; and thus this seemingly clumsy process might be rendered as easy of use, and neat in application, as the process of fumigating with tobacco. We recommend the subject to the attention of our readers, and especially such of our young friends as have studied a little chemistry.

WE scarcely meet with a single periodical devoted to rural culture, that does not contain strong indications of an increasing disposition in the public to educate the rising generation in a love for the vegetable world. The following is from Loudon's Magazine:

ON THE MEANS OF INSPIRING A TASTE FOR GARDENING AMONG THE LABOURING CLASSES OF SCOTLAND.

By James Stuart Menteath, Jun. Esq. of Closeburn, Dumfriesshire.

"Between the upper and lower classes in Scotland, cordiality, mutual confidence, and support, prevail, to which many other nations are strangers. It behoves the higher classes to endeavour, by protection, by kindness, and by example, to preserve those principles and relations which have been so honourable to Scotland, which form the basis of good education, and without which education is unavailing."

"And round about he taught sweet flowers to grow."
Spenser.

No country abounds more with seminaries for the education of youth than Scotland; and much of the successful enterprise of her inhabitants may be attributed to the education obtained in these seminaries, of which parochial schools may justly be reckoned the principal. But the education, how good soever it may be, acquired at these schools, might be rendered more perfect, by incorporating with them somewhat of a practical nature, to train the hand as well as the mind. Many employments suited to this purpose might be suggested; but scarcely any could be at once more agreeable and beneficial, than instructing the children in the operations of common kitchen-gardening. The proposal of such a new scheme may startle some, who are not aware that nearly every parochial schoolmaster in Scotland already possesses a garden, of a smaller or larger extent, which might be employed for this purpose; the extent of every schoolmaster's garden being fixed by an act of parliament to be a rood, or quarter of an acre, of ground. Others, again, may suppose that the other business of the school would be interfered with and interrupted, were a method of school gardening teaching introduced; but it will not be difficult to show the contrary.

To introduce into our Scottish parish schools the teaching of gardening to children, we should require, in the future appointment of all schoolmasters, a knowledge of the culture and uses of all the common culinary vegetables and fruits, together with a slight acquaintance with flowers; and to assist those masters already appointed, but who may be ignorant of horticulture, the gardener of some landed proprietor in the parish, or, if none in it, the gardener of some neighbouring heritor, might be called in, to supply the want of information in these respects. A knowledge of horticulture might easily be acquired by all young men qualifying themselves to be parochial schoolmasters, in a similar manner; since scarcely a parish in the southern parts of Scotland is without one or more resident landed proprietors. These all possess gardens, and nearly all keep a gardener. None of these proprietors would deny the schoolmaster access to their gardens, where he might learn, under the direction of the gardener, all the practical useful parts of common kitchen-gardening; and where towns are near, a more extensive acquaintance with the subject might be obtained by frequenting the gardens of intel-

ligent nurserymen, who would no doubt do every thing in their power to facilitate so useful a design.

Supposing, then, the schoolmaster possessed of the requisite knowledge of common kitchen-garden cultivation; his garden, being increased to not less than half an acre of ground, should be divided into portions. These divisions should be of such a size as to admit, in each, of a regular rotation of the several vegetable crops to be raised. Over each plot or division of ground a certain number of children, not too numerous, but so arranged that each individual might be able to put his little hand to the work himself, should be placed. Rows of gooseberry, currant, and raspberry bushes, might separate the divisions; and a few apple, pear, and cherry trees, might have place, as standards, espaliers, and wall trees. On these, the processes of budding and grafting might be exemplified. In order that no interruption should be thrown in the way of the regular business within the school, the cultivation of the schoolmaster's garden by the children should be only carried on in their play hours, and an hour on Saturdays, when all the other business of the school had been got through, or whenever time could be spared.

* * * * *

The youth of the country will, so instructed, grow up with a love of rural affairs; and instead of throwing away their time and money in low dissipation, both will be devoted in their leisure hours to useful pursuits. Thus Scotland, from being a country famed for its good agriculture, will become equally so for its cottage gardening; and every cottage will have its garden, stored with all the useful pot-herbs and vegetables for the food of its inmates; with fruit, so desirable to all; and will be ornamented also with a choice small collection of flowers. In addition to which, a love of plants and flowers being universally diffused, every parish may in time have its little garden society, and its meetings for the distribution of prizes for the best vegetables, and fruits, and flowers, among its members.

[*From Loudon's Gardener's Mag.*]

ACCOUNT OF THE OTAHEITEAN METHOD OF PREPARING THE ARROW-ROOT.

By Andrew Mathews, Esq. of Lima.

Sir,—By this I trust you have received my letter of August last, which will inform you of my having crossed the Cordillera of the Andes. Since then, I have learned from Dr. Hooker that he has published a description of the route by Mr. Cruikshanks; I shall therefore reserve what I intended to send you on that subject, till I receive Dr. Hooker's publication. In the mean time, I send you an account of the Otaheitean method of preparing the arrow-root of commerce, as I witnessed it performed in that island; hoping that it may be the means of attracting the attention of some persons in Great Britain connected with those islands, and be a means of establishing a more direct intercourse with the inhabitants.

The root (*Tacca* pinnatifida *Lin., Ency. of Plants*, p. 256, fig. 4321, the *pea* of the natives) grows in the greatest abundance in all the islands which we visited, viz. Otaheite, Eimeo, Huaheine, Raiatea, and Otaha. Its favourite situation is on the sides and ridges of the hills which rise directly from the sea, and which are generally covered with a coarse grass, on a red sandy loam. The root is round, white, smooth, full of eyes like a potato, and from 2 to 3 inches in diameter. The flower-stem rises directly from the root, simple; from 2 to 4 feet in height, as thick as a man's finger, bearing its flowers in a loose simple umbel on the summit; and when large and full blown, it presents a beautiful and delicate appearance. The leaf is large, tri-pinnatifid, segments acute, of a rich shining green: it is subject to great variation in the size of the segments, some leaves being much more cut, and having the segments narrower, than others. When a sufficient quantity of the roots is collected, they are taken to a running stream, or to the sea-beach, and washed; the outer skin is carefully scraped off at the same time with a shell, and those who are particular in the preparation scrape out even the eyes. The root is then reduced to a pulp, by rubbing it up and down a kind of rasp, made as follows: a piece of board about 3 inches wide and 12 feet long is procured, upon which some coarse twine, made of the fibres of the cocoa-nut husk, is tightly and regularly wound, and which affords an admirable substitute for a coarse rasp. The pulp, when prepared, is washed first with salt or sea water, through a sieve made of the fibrous web which protects the young frond of the cocoa-nut palm; and the starch, or arrow-root, being carried through with the water, is received in a wooden trough made like the small canoes used by the natives. The starch is allowed to settle for a few days; the water is then strained, or, more properly, poured off, and the sediment re-washed with fresh or river water. This washing is repeated three times with spring water; after which the deposit is made into balls of about 7 or 8 inches in diameter, and in this state dried in the sun for twelve or twenty-four hours. The balls are then broken, and the powder spread for some days in the sun to dry; after which it is carefully wrapped in *tapa* (the native cloth), and put into baskets, and hung up in the houses. The natural indolence of the people is so great, and their avarice such, that but few of them will give the arrow-root sufficient time to dry, if they have an opportunity of parting with it—which I suspect was the case with that sent to England some few years back by the missionaries. So abundant is the root, that several tons might be prepared annually by proper management; as it is, there is a considerable quantity prepared: it being not only eaten by the natives and strangers on the island, but also by the crews of the vessels that touch there.

At present, when the roots are taken up, the only precaution used to secure a crop the following year is to throw the smaller roots back into the holes from which they were taken, and to leave them to chance. I have no doubt that, with proper care and cultivation, any quantity might be produced. When we visited the island, we purchased the prepared arrow-root at 2*d.* per lb., and a missionary there informed us, that he would engage to procure any given quantity at three-fourths that sum per lb., which is, I believe, much less than it can be purchased at either in the East or the West Indies. Its quality is excellent—I should say equal to that of the East Indies, and far superior to that of Chile, with which I have, since my return, had an opportunity of comparing it. Though

there are at present many English and North Americans upon the island, I am sorry to say that but few of them have set the natives the example of industry that might have been expected; even the missionaries themselves are still backward in that respect.

As I am likely to remain some years longer in Peru, I have deferred sending you any remarks on the state of agriculture and horticulture in that country, till I become better acquainted with the manners and customs of the inhabitants; but as I am now in possession of a property of about fifty acres, which I am working, and in which I have all the fruits common to the country, I hope to be able shortly to furnish you with something novel and interesting respecting it.

I am, Sir, &c.

Lima, Dec. 23, 1831. ANDREW MATHEWS.

REMARKS. We would take this opportunity to renew our requests to those who reside and travel in foreign countries, to communicate to us on rural affairs. Those who are connected with the religious missions would confer a special favour, in making our paper a record of their and the natives' progress in rural improvements. As far as our information extends, we have been led to conclude that the missionaries were generally the first to introduce the tillage of the soil. We will very cheerfully furnish files of the New-York Farmer to missions in any quarter of the globe.

[*From the Southern Agriculturist.*]

THE FLOWER GARDEN, AND THE CULTURE OF FLOWERS, AS CONDUCIVE TO HEALTH, PLEASURE, AND RATIONAL AMUSEMENT. *By Thomas Fuller Hazzard.*

West Point, St. Simon's Island, (Geo.) April, 1832.

Mr. Editor,—It has appeared to me a little singular, that none of the readers and subscribers of your useful and entertaining *Agriculturist*, particularly your fair readers, and I hope there are many of them, have devoted a thought to all the charms and allurements of the Flower Garden. I am certain that the lovely daughters of the south cannot be insensible to such refined taste, or indifferent to so amiable and exhilarating a pursuit. I know to the contrary: and I am equally certain, that there are an innumerable variety of the most rare and splendid flowers annually grown throughout the southern states, both in the cities and in the country, which not only adorn and delight their owners, but are the admiration of all the travellers and florists who may be permitted to examine them. The cause why this interesting department continues unoccupied, must be attributed to the genuine diffidence and retiring modesty of southern character, and to no other. As you have expressed a wish for me to make only a beginning on the subject, I will do so with pleasure; and trust it may draw out and induce others during the approaching summer, to gratify the wishes and tastes of your readers in general.

The flower-garden, from the remotest antiquity, has ever been considered a sacred place, where all the most chaste and refined feelings of the soul were stirred up, and called forth into maturity and vigorous action. Here, Nature displays her wonderful mystery—her rich and gorgeous tints—her brightest colours—her most balmy perfume. It was a place well calculated to attract the admiration of all the illustrious men and women, both of Greece and Rome. They dedicated such places to their deities, and celebrated various pious and festive rites and solemnities, which, no doubt, in their day and generation, did afford them the highest enjoyments. It was within these classic scenes that their elegant taste was displayed, their immortal poetry composed, and their literature cultivated to its perfection; and Nature in all her splendour was often almost rivalled by the genius and ingenuity of her votaries. This pursuit has not only great antiquity, but the approbation both of sages, poets, and saints, in its recommendation. Flora is its goddess, and Hygeia, who presides over health, is her attendant, whilst Venus and Cupid are ever ready to lend their aid and assistance. Therefore, ye lovely belles of the South, if you desire health, bright eyes, and rosy features, enter the garden of flowers, and exercise in a wholesome and innocent pleasure, which will enliven your mind, enlarge your understanding, warm your heart, and mould your forms, so that you will be prepared to enjoy whatsoever destiny the God of Nature may determine.

In a climate like ours, where the morning and evening of spring, summer, and autumn, are so well calculated to invite us to walk forth and survey the beauties of the field, or luxuriate the eye on the exquisite varieties of plants to which it is congenial, I cannot imagine any fancy more rational than to devote a small spot of ground, or a few hours in the twenty-four, to the culture of flowers.

When I meet a young lady who has no taste, no feeling of admiration, for such an elegant and refined pursuit, my mind involuntarily reverts to the character of Mrs. Dame Van Winkle, of tygress memory. Thinks I to myself, you may, fair lady, despise things so simple and innocent—take care you do not admire solids, and use the positive end of your broomstick, to teach your 'gude man' the phenomena of electricity. With me, a garden of flowers calls forth either gay or lively thoughts, or profound meditation. There are so many exquisite beings, of such curious and complicated structure, so perfect in all their parts, that they proclaim in silence the incomprehensible wisdom of that Being, whose sovereign will could alone create them. They spread out their charms, their tender flowers, that the sun may mature and the dew increase their sweetness. They feel the air as it passes—to them it is Nature's priest. The glare of the sun witnesseth both their loves and their nuptials. Who hath a heart to love? here, child of Adam, mayest thou indulge the master passion: every flower is either male or female. Well may poets of all ages contemplate this subject, and sing in admiration the "loves of the flowers."

[Our limits compel us to omit several paragraphs on the culture of flowers, which are not appropriate to the Middle and Northern States.]

Our forests, pine-barrens, and prairies, all abound in a great variety of beautiful native plants, many of them vying with any of the foreign. They all improve by culture: among this number, the Fringe-tree, Snowdrop-tree, Sensitive-briar, pink and crimson Honeysuckle, well merit prominent places. They

can all be propagated either from seeds or roots. I had last summer several most beautiful sensitive plants, which were universally admired by all who saw them. There are also a great number of beautiful Flags and Lilies, which abound along the shady and fertile banks of the Altamaha: the white Pancratum is very curious and fragrant, bulbous, and improves considerably by culture: they are now in bloom. The yellow Flag (*cana flaccida*) is bright and shining in its colour, and displays itself in July: I sent some roots to you. The sweet Smelling Shrub is one of our most choice native plants—its perfume almost rivals the rose of Damascus. They grow either from the seed or roots, planted in a moist place, or in blue swamp-clay, and kept well watered. We have on this island three varieties of Tradescantia—pink, pale blue, and dark purple. The white I have never seen, the others I have now in full costume: they may be raised either from seed or roots. The Clematis is also a pretty creeper, now in flower—grows from seed or roots, planted in the fall. The yellow Jessamine of Carolina, if cultivated with care, and planted in blue clay, will flower twice in the year.

The above is but a feeble effort to comply with your request—I hope it may induce others to continue the subject, for it is one which contains much to entertain both mind and body. I have only glanced at a few plants: to have been more minute, would have occupied too much of your work. I have also used the names which are most common and best known. Should it afford your readers any amusement, or beguile one tedious moment, my object and wish will then be accomplished. I conclude with another extract from an old poem:

"To raise your flowers various arts combine—
Study these well, and fancy's flight decline.
If you would have a vivid vigorous breed,
Of every kind, examine well the seed.
Learn to what elements your plants belong,
What is their constitution, weak or strong.
Be their physician: careful of their lives,
And see that every species duly thrives.
These love much air, these on much earth rely,
These without constant warmth decay and die.
The wisest, best, to whom just praise belong,
And all who've sought life's comfort to prolong,
In gardens passed the leisure of their days,
And rural scenes preferred to worldly praise.
Here felt, from noise protected, and from strife,
The sweet enjoyments of a rural life.
If nature in her dress is simply neat,
'Tis art which makes her beauteously complete.
View the gay scene where Flora's beauties rise—
'Tis nature's God that all those tints supplies.
Exert thy reason, then, and trace the cause
Of beauty, and well weigh who gave it laws.
In the creation the Creator view,
And learn to Him what gratitude is due.
Why does the rainbow sparkle in our eyes?
For the same cause, the tulip's purple dyes?
That, to their author, man his thoughts may raise,
Inspired with rapture, wonder, love, and praise."

I salute you, Mr. Editor, with best wishes for your continued health and usefulness.

THOMAS FULLER HAZZARD.

This is the season when the owners of lands or farms should have collected and put away in proper state of preservation, seeds of useful forest trees. Should they not have collected them, it is not yet too late to procure many of the most valuable kinds. The following directions on soils and sites are from the *Sylva Americana*.

SOILS AND SITES MOST PROFITABLY EMPLOYED IN THE GROWTH OF TIMBER.

From what has been said respecting the advantages of judicious planting, the lands and sites most proper for the growth of timber will have been generally understood. There has been a difference of opinion whether land under woods or under tillage is the most profitable and beneficial to the proprietors and the public; the question is similar to that which exists respecting the comparative value of tillage land and permanent pasture, and may be solved in the same manner, viz., that the prosperity, if not the absolute existence, of the one is dependent on the other, and the interests of individuals as well as the public on both. The occupiers of land where woods are scarce, or wanting altogether, and those where they are in too great abundance, will coincide in the truth of this observation.—The proportion which woods should bear to tillage and and pasture lands in any one district of country depends on the nature of the soil, and the local demand for certain kinds of produce.

There can be but one opinion as to the advantage of planting exposed waste lands, and those that are steep, rocky or precipitous. The loss to individuals and to the nation, by such large tracts of land as those now alluded to lying utterly unproductive, is incalculable.

Lands of rather a superior quality to those, or which are accessible to the plough, and the barrenness of which is owing to exposure and ungenial climate, offer great inducements to forest-tree planting. For when the improvement is completed, it is, to its extent, so much added to the territorial extent of the country, in affording the means of sustenance as well as the enjoyment of human life.

Lastly, where the local climate and soil are good, but where, at the same time, a scarcity of timber exists for the periodical wants of agricultural and manufacturing operations, as for the various purposes of buildings, implements of husbandry, fencing, poles, machinery, fuel, etc., planting is of great importance and utility to the community. In many cases, where the soil is of greater value, the planting may be confined to the angles of inclosures, and to hedge rows.

In this last case it may be necessary to observe, that the land of the lowest comparative value for corn crops, and the most eligible for shelter and shade, where required, should be chosen for planting.

It may be useful to take a more intimate view of the nature or composition of those varieties of soil which have been alluded to. It is proper, however, to observe, that the following statements of the nature or constituents of these soils are not intended to convey the idea that they are the best sorts respectively for the different kinds of forest trees, but principally to show that on such soils these trees have attained to great perfection of growth. The soils were selected from the spots where the trees mentioned in connexion with the soils were found by a celebrated forester, and the trees

were, on an average, the finest of the respective kinds which have come under his observation.

The great importance of precision in the nomenclature of soils, whether in the details of planting or husbandry, must be so clear and evident to every person who may be desirous to profit by the results of others' experience in these subjects, that it would be superfluous here to add more on the point.

1st. Heath soil, or siliceous sandy moor soil, incumbent on shale or ferrugineous stones, and frequently on siliceous sand of great depth.

400 parts consisted of, fine siliceous sand,	320
Carbonate of lime,	2
Carbonate of magnesia,	1
Decomposing vegetable matter, chiefly composed of the decaying leaves of heath,	55
Silex, or impalpable earth of flints,	11
Alumina, or pure matter of clay,	3
Oxide of iron,	4
Soluble matter, principally common salt, or muriate of soda,	4
	400

The birch and the beech are found to succeed better on a soil of the above description than any other kind of tree. For the latter, however, it is necessary that the subsoil should be a deep sand. The larch and spruce, under the like circumstances as to subsoil, will also attain to a good perfection on heath soil; but where the subsoil is rocky, or impervious to a free circulation of moisture by indurated sand, which is sometimes the case, these last mentioned trees never succeed.

2d. 400 parts of poor sandy soil, incumbent on shale, or very coarse gravel.

Fine sand, principally siliceous,	360
Impalpable earthy matter, 40 consisting of carbonate of lime,	0
Decomposing vegetable matter, destructible by fire,	4
Silex, or pure earth of flints,	22
Alumina or pure matter of clay,	7
Oxide of iron,	5
Soluble saline matters, chiefly muriate of soda,	2
	400

The pine, larch, spruce, birch and sycamore, are the most proper for this kind of soil.

3d. Sandy loam, incumbent on siliceous sand, containing a large proportion of oxide of iron. 400 parts.

Fine sand, partly calcareous, and partly siliceous,	200
Coarse sand,	84
Carbonate of lime,	6
Decomposing vegetable matter,	15
Silex, or the earth of flints,	56
Alumina,	12
Oxide of iron,	5
Soluble vegetable matter, containing sulphate of potash, vegetable extract, and common salt,	4
Loss,	24
	400

The larch, pine, and fir tribe, in general will succeed well on a soil of this texture, although the beech comes to the greatest perfection, or is, perhaps, the plant most profitable to employ in planting soils of this nature, particularly when the subsoil happens to be deep sand.

4th. Light sandy siliceous soil, incumbent on a damp clayey subsoil.

Siliceous sand, of various degrees of fineness,	200
Gravel, partly calcareous,	40
Impalpable loamy matter, consisting of carbonate of lime,	5
Silica, or earth of flints,	38
Alumina or clay,	9
Oxide of iron,	5
Decomposing vegetable matter,	8
Moisture and loss,	5
	400

The oak grows rapidly on this soil, and should constitute the principal timber tree of the plantation. The chesnut also attains to great maturity in the same kind of soil. The nurse trees most proper are the larch, spruce, and particularly the silver fir. The elm planted on this soil had not attained to the size of the above-mentioned trees in the same period from planting, but the timber was considered of a superior quality.

5th. Clayey loam, incumbent on a clayey subsoil.

Coarse gravel, partly calcareous,	40
Fine sand,	190
Carbonate of lime,	16
Decomposing vegetable fibre,	14
Silex, or pure matter of flints,	90
Alumina, or pure matter of clay,	30
Oxide of iron,	7
Soluble vegetable extract and saline matters, containing gypsum, common salt, and sulphate of potash,	5
Loss and moisture,	8
	400

This soil brings the oak to the highest state of perfection.

6th. Damp clayey soil incumbent on clay.

Coarse siliceous gravel,	60
Fine sand,	120
Vegetable matter, destructible by fire,	9
Carbonate of lime,	15
Silica, or earth of flints,	130
Alumina or pure clay,	48
Oxide of iron,	10
Soluble saline matter, with vegetable extract and gypsum,	8
	400

The oak, elm, ash, and horn-beam, attain to greater perfection here than any other kind of forest tree. The tulip tree (*Liriodendron tulipifera*) grows freely on this soil when it is properly prepared by trenching.

7th. Fertile peat moss, incumbent on clay or marl.

Fine siliceous sand,	231
Undecompounded vegetable fibre,	13
Decomposing vegetable fibre,	57
Silica, or impalpable earth of flints,	50
Alumina or pure matter of clay,	18
Soluble matter, principally vegetable extract,	4
Oxide of iron,	2
Moisture and loss,	25
	400

This variety of peat soil when prepared for planting by draining off the superfluous moisture, with which it is found almost always saturated, is capable of growing very profitable trees, as the birch, poplar and willow. A piece of ground of this nature, prepared by cutting open drains at such distances from each other, as to leave a sufficient breadth or body of earth to retain a due proportion of moisture in dry weather, and yet prevent saturation of moisture in the wettest weather, was planted with a variety of trees. The trees above mentioned succeeded remarkably well, and made an improved return of a hundred per cent. in comparison to that afforded by the natural produce of the surface. The following variety of peat which is not uncommon, is to be carefully distinguished from the above.

8th. Inert peat soil.

Fine pure siliceous sand,	29
Inert vegetable matter destructible by fire,	289
Alumina,	14
Oxide of iron,	30
Soluble vegetable extractive matter, sulphate of iron, and sulphate of potash,	11
Sulphate of lime,	12
Loss and moisture,	15
	400

The outward characters or appearance of this soil is so similar to those of the first mentioned variety of peat, that they are scarcely to be distinguished by common observation. The above soil, in its natural state, is absolutely sterile. Large applications of caustic lime and of common salt, in a smaller proportion, had the effect of improving the nature of this soil so much, as to render it capable of vegetating turnips. It has not been proved, however, what the results of planting forest trees might be on this soil, improved in the manner now stated.

9th. Chalky soil, incumbent on chalk rock.

Calcareous sand,	280
Carbonate of lime,	60
Decomposing vegetable fibre,	5
Silica,	28
Alumina,	10
Oxide of iron,	8
Vegetable and saline soluble matters,	4
Moisture and loss,	5
	400

The beech, ash, and oak thrive better on a soil of the above composition, than any of the resinous or fir species of trees.

Of the above varieties of soils, if we except the sandy loam No. 3, and the clayey loam No. 5, there is not one which, on its natural site, could be profitably cultivated under corn or green crops, but which, by skilful planting, might be made to return considerable profits to the owners, and also to the public the many advantages which judicious planting always confers.

Although there may be found shades of difference in the proportions of the constituents of soils receiving the same designation, such, for instance, as the poor sandy soil, containing ten per cent. more or less of sand in one situation more than another, yet the actual produce of timber, all other circumstances being equal, will be found to vary but little, if any. But where the difference in the proportions of the ingredients is found so great as exists between the sandy loam No. 3, and the poor sandy soil No. 2, or, in a word, as between any two of the soils now attempted to be described from practical experience in their culture, as well as from a careful chemical examination of their properties and constitution, a very marked and decisive difference will be found in the comparative produce of timber, and the peculiar species or kinds of trees which should have been planted in the greatest number, or in preference to others.

[*From Loudon's Gardener's Mag.*]

A NEW APPARATUS FOR HEATING BY HOT WATER.

Sir,—In the *Gardener's Magazine* you have given descriptions of various methods of heating horticultural houses by hot water, and, amongst the number, a plan (Vol. VI. p. 374,) of which I had formerly a good opinion. Since that plan was executed, I have been tempted to adopt others in my establishment, with every one of which, in its turn, I have felt satisfied; but such is the march of intellect, that we are now daily surprised by new inventions; and with none of these, as far as respects heating with hot water, have I been more pleased, than with a very simple, cheap, and powerful apparatus, just invented by Mr. Weeks, of the King's Road, Chelsea. I was induced to make trial of this, by having one put up in my office, and its erection and completion did not occupy quite four days. In fact, I had a fire in it on the third day, to prove its power, &c.; and in twenty minutes (including the time of lighting) every part of the apparatus was heated to excess, and the water was boiling with great violence, the office in a short time becoming excessively hot. It is right to say, that the fuel consisted of shavings and wood. I consider this apparatus well adapted, not only to horticultural houses, but also to all kinds of buildings requiring either quick and powerful, or moderate heat. The water appears to descend and ascend, as occasion may require. The consumption of fuel, I have good reason to think, will be much less than in any other apparatus with which I am acquainted. I hope you will soon be furnished with the means of making this very important invention known to all your friends.

I am, Sir, &c. JOSEPH KNIGHT.

Exotic Nursery, King's Road, Chelsea;
Sept. 15, 1832.

We have seen this apparatus, and it may be shortly characterised as a mode of heating and circulating water in small tubes in Mr. Perkins's manner, without a boiler; but differing from it, in not having the tubes hermetically sealed. The chief advantage which we can see in this new apparatus over those in common use is, that it has the power, to a certain extent, of circulating the water below the level of the fire. This is unquestionably a most valuable improvement; and though it has been before obtained through mechanical means by Mr. Busby (see *Repertory of Arts*, vol. xiv. p. 137,) and by Mr. Perkins with his hermetically sealed tubes, it has never, till now, been effected by an open apparatus alone. We shall give detailed accounts of both Mr. Busby's method and that of Mr. Weeks, in an early number.—*Loudon.*

MEMOIRE ON THE STRAWBERRY.

Read before the Horticultural Society of Charleston by the President, Judge WILLIAM JOHNSON.

[We find the following classical and practical memoir in the 'Southern Agriculturist.' Those officers of rural societies who wish to see the associations over which they preside flourish, and become useful, must put the hand to the plough—must practice, read, and write.]

As the season is now at hand which invites the attention of the horticulturist to his bed of Strawberries, I will solicit the attention of the Society while I submit a few remarks on this favoured protege of our institution. The practical character of the body I have the honour to address, might excuse me in confining myself to the mere cultivation of this delightful fruit; but when gentlemen unite in associations for patriotic purposes, they may surely be indulged in sacrificing something to taste, and in blending the pursuits of the useful with the gratification of a laudable curiosity; or even in amusing speculation, as far as it contributes to furnish topics for literary inquiry or spirited conversation.

I shall not detain my audience by an eulogy on the many excellencies of this admired fruit: the sense of this society on the gratification it affords to the eye, to the smell, and to the taste, has been amply acknowledged by the effort we have made to render it like gold in the time of Solomon—as common in our markets as the stones in the streets.

A happy augury of ample success has already appeared in a spirited effort of one of that sex, who were born only to add to the cultivated taste and rational enjoyments of life; nor will the employment be deemed at all unappropriate, when it is recollected that the fruit and the root furnish, the one an essence, the other a cosmetic, considered by the Parisian belle as not unworthy of the charms which they contribute to embellish. And the time cannot be far distant, when the early production and cheapness of this article will impress on every mind the propriety and duty of giving a preference in cultivating and improving our own native productions.

That the strawberry is a native, and is susceptible of immense improvement from cultivation, are unquestionable facts. Scarcely is there a region between the polar circles, where the foot of the early hunter may not chance to be stained by the juices of this dainty esculent. It is, however true, that from the multitude of birds that feed upon it, from its ripening at the height of the time of ornithological emigration, and the inconceivable rapidity and length of the flight of some of the winged species, the fact of its extensive diffusion is not conclusiue to prove either its general or even domestic origin (for it may have been brought by the birds from Asia); yet I will be indulged with a remark to shew, that we have no inconsiderable grounds of claim to the honour of having given it to the world; the best species known, America, if not Carolina, most certainly has introduced into Europe, to wit, the Scarlet, the Chilian, and Carolinian, and probably the Hautboy. I think it very questionable whether the strawberry was at all known to the ancients. It is hardly possible to conceive, that among a people so luxurious as the Romans, so devoted to the enjoyments of the table, and especially to those enjoyments which horticulture afforded —a people who held the culture of the earth in such high honour, that the most distinguished of their statesmen and poets have left us instructions for cultivating a leek or a squash, a plum or a crab-tree; a fruit so early, so fragrant, so beautiful, or so salubrious, as the strawberry, should have escaped a passing notice in their books, or not found a place on the farms in the vicinity of Rome, had it been known to them. Yet, in no one of their writers on geoponies, have I been able to find a hint on its cultivation, nor even a name for it. It is true, that in our Latin dictionaries we find the word 'fragum,' and find it translated a strawberry; and a derivation fancied for it, from the word fragro, in consequence of its flavour, or according to others frigida, and others frango, all, perhaps, of at least questionable authority, when referred to the general laws of etymology. And it is true, also, that from the term fragum, our botanists and cyclopedists have the word fragaria, the received name of the strawberry; and of which it is said in Rees, and, I think, in the French Encyclopedia of Knowledge, "that it was so called by the Romans on account of its fragrance;" but if the term fragaria is to be found in any Latin dictionary, I am unacquainted with it. In Littleton and Ainsworth it is not to be found, nor in any ancient author that I know of. The term fragum is to be found in one author; and I think the former is fully proved to be a modern substitute for it, by the fact of borrowing from Littleton the etymology assigned to it.

It is then only necessary to examine the word fragum, and to determine whether it was our strawberry that was known to the ancients under that name. I think the evidence is full on the negative.

If the word fragum is to be found in Virgil, Cato, Varro, Paladius, or Columella, it has escaped my eye. In Pliny's Natural History it is to be found; and in his translator, Holland, it is translated into English as the 'ground strawberry.' But let Pliny speak for himself as to the description of fruit to which he applies that epithet. Every one knows that the arbutus, so frequently met with in our Latin books, is rendered by translators 'the strawberry tree.' And the fruit of that tree is so proverbially harsh and uneatable, that it received, as Pliny says, the epithet 'unedoni,' from the impossibility of eating more than one at a time. Yet Pliny, speaking of the arbutus and the fragum, and of the resemblance of their fruits, calls them congeners. This is in the first instance of his mentioning the word fragum; but, as if to remove all doubt, he mentions it a second time, and then ranks it among plants "springing spontaneously, and bearing thorns or prickles."*

It is hardly possible to avoid referring this description to the blackberry, which in its progress to maturity is red, and harsh enough to be well denominated a congenor of the fruit of the arbutus. To these considerations it may be proper to add, that the Greek word given by Littleton, and I think Ainsworth, for fragum, is that which the Lexicons give to the arbutus. Fraga is rendered 'la komara' in Hedericus, and 'komaros' the arbutus.

I have noticed the vast improveability of the strawberry, as one among the many inducements to its cultivation. The full value of this characteristic is only known to those who have been engaged in improving it. The Chili strawberry is in various writers represented as reaching to the wonderful size of a walnut or a hen's egg. I have myself witnessed facts sufficient to produce the strongest conviction and most confident expectation on this subject. Strawberries, originally no larger than the end of one's finger, have, in my garden, in a few years attained to treble that size. Three inches in circumference is of very common occurrence, three and a half very frequent, and in one instance we measured one four and a half inches. Yet I know that my avocations have always disabled me from doing justice to the article. Perhaps, however, there is little to be gained from raising it beyond the circumference of three inches. At that size the plant bears abundantly, and the fruit makes a fine exhibition on a table. The very largest would probably not bear so well, and would hardly ripen through before some bird or insect had inflicted a disfiguring wound upon an object so tempting and so conspicuous. Thus we are informed, that the great Chili is not a favourite among the gardeners of Europe, from its unproductiveness, while the early productive and brilliant Carolinian is much cultivated. Indeed, it would seem to have gained upon the Chili by cultivation, until it has either superseded it altogether in England, or to have substituted its name for the latter.†

* Plin. Nat. His. vol. ii. pp. 206, 713.

† Fragaria Chiloensis, Rees.

It has been a subject of no little discussion among the learned, whether all the different species of strawberry are anything more than mere varieties. To vulgar senses, the form, colour, growth, and flavour of the fruit present sufficient characteristics to distinguish the kind, and assign them their respective names; but the learned have been obliged to resort to the form, colour, pubesence, and other circumstances of the leaf, stock, &c. I have never cultivated but two kinds, and those are the two most familiar in our horticulture. The Hautboy, which some think a native of Louisiana, is one; and the other is one which, from having repeatedly found it in our native woods, I shall venture to call the real Carolina strawberry.

The subjects to be considered by the cultivator, naturally distribute themselves under the following heads.

1. Soil.
2. Time of planting.
3. Preparing your bed.
4. Setting out.
5. Dressing an old bed.
6. Care until the bearing season is over.
7. Care afterwards.

1—Soil. In the choice of soil, the strawberry appears to manifest no fastidiousness. We find it growing naturally in every description of soil, and surviving in despite of all kinds of neglect and rough treatment. The only exception that I know of is, that the water must not rest on or in the soil to which you consign it. Also, when growing in our gardens on a sandy soil, unprotected from the summer's sun, it will perish unless sufficiently watered. Yet I am inclined to think that in a natural state it affects a soil rather low and clayey. In glades and meadows, and particularly on the immense prairies of the western country, we find it flourishing, and bearing and enduring in the highest degree for a state of nature; I have not had opportunities of observing, however, whether this may not be attributed to the protection which such places afford to its roots against the summer's sun, and the fires that annually pass over them. It is a common practice with many gardeners to strew their beds lightly with trash, and burn them off preparatory to dressing them—from perceiving, I suppose, how the roots sprout and flourish in the meadows after the fire has cleaned them from the accumulations of grass and weeds which grew over them through the summer. But in a light soil and dry situation, I should think it a hazardous experiment. In a moist place or clayey soil, perhaps, it may be a safe as well as an expeditious method of clearing the plants of the dead leaves and accumulated trash of the past year. The soil of my garden was originally a very poor sand, full of nut-grass and very sterile; by the aid of marsh-mud, stable manure, and compost, I have made it very productive in most kinds of vegetables; and such is the only soil on which I have cultivated the strawberry. A rich sandy loam is what the foreign gardeners recommend; but I should say that the plant would succeed on any soil properly tempered to its habits; and I am well satisfied, that in the efforts that are made to bring it to perfection, we oftener make the soil too rich, than leave it too poor. Hence so many beds disappoint the expectations of the zealous cultivator, by giving him abundance of large leaves, but very little fruit. There is a medium which it is difficult to describe, but which seems indispensable to success with the strawberry. A natural tact, or a few experiments, will, however, be sure to make us masters of it in a year or two.

2—Time of Planting. For the simple purpose of propagation, the strawberry may be planted during a large portion of the year, perhaps in any month of the year, in our climate. But it will in summer require careful watering. And if planted at any time before the first of February, it may produce fruit; but the time to which I have finally confined myself, is from the autumnal equinox to the tenth of October. During that period it takes readily, requires little if any watering after the first insertion of the plant, and bears a crop of good fruit the ensuing spring.

3—Preparing your Beds. Putting a bed in high tilth is a standing rule in horticulture, whatever be the plant to be cultivated. This, therefore, I assume as having been done. Manuring is another standing rule; but in this instance it must be restricted by the suggestion before made, that a soil may be rendered too rich for strawberries. It is impossible to lay down any precise rule on the subject, although an all-important consideration in the culture of this article. Much must depend upon the observations of the cultivator; and perhaps it may be enough here to say, that land which will produce a crop of corn of twenty-five bushels to the acre, will produce a good crop of strawberries.

Most persons are in the habit of making oblong beds of such a width as to admit of the gathering of the fruit from the paths on each side. And such is the mode recommended generally in the books. But I have long since abandoned it, and substituted another which I find more convenient. The size or proportion of my bed is immaterial; for I make small ridges upon it at from eighteen inches to two feet apart, on the summit of which I insert my plants in a single row. There is no loss of ground in this mode of planting, since, with beds at eighteen inches apart, and plants at eight inches distance on these beds or ridges, you have the same number of plants as if set in the ordinary mode, and twelve inches apart each way. The additional labour is trifling, and will be fully compensated by the increased facility in weeding, watering, gathering, and redressing. But the principal object in adopting this mode, is to keep the fruit the better off the ground. It is also a neater and more ornamental mode of cultivation, gives a better circulation of air, and your plants bear better and finer fruit when so arranged.

4—Setting out. This is done by stretching a line along the summit of the ridge, and making holes along under the line with a trowel, by an eight inch measure, in a single row; after which, the plants must be watered the same day, and it would be advisable to repeat the watering, if the weather is dry. A little attention to watering at this time will save the necessity of replenishing, when, perhaps, your plants have been hoed up or given away, or the season too far advanced for the sets to take good root before the severe colds, or to produce a satisfactory crop in the spring.

It is hardly necessary to add (for no horticulturist should be suspected of slovenly habits) that the sides of the ridges should be neatly raked and levelled, after the planting is completed.

5—Dressing an old Bed. The books generally maintain that a strawberry-bed should be renewed every three years. I shall have occasion, before I conclude, to consider the question whether it would not be the best economy to renew it every year. But in order to give an option to the horticulturist, I will suggest a method of dressing an old bed, which renders it unnecessary to abandon it at all, and which is necessary to be attended to every year if you would have regular beds and good fruit.

The first week in October, and after filling up the new beds from the select succours of the old, you stretch a line along the summit of the ridge, and draw up a little earth so as to restore the regularity of its form whenever it has been impaired by the rains and other causes between the season of bearing and that of dressing. You then select young plants from your runners, and replenish the summit of the ridge under or near your line, where the plants have failed, (as many of them always will fail from the ants, the sun, and a worm that sometimes attacks the roots.) When that is done hoe clean between the ridges, and turn up the ground about half a spade deep.

It may be that the bed needs manuring; for either the plant, or the exposure of the soil to the sun produced in cultivating it, certainly does weaken the soil. This is always perceived by the pale hue and stinted growth of

the plant; and in that case manure must be scattered before the spading is given to it.

After this dressing, as you can have easy access to every part, care must be taken to eradicate the weeds and nut-grass; for the true reason why the breaking up of the old beds become necessary is, that they get foul and exhausted. By pursuing the method here suggested, and drawing up the manured soil to the roots of the plant, I have kept the same bed clean, full, and in heart for ten years, and it may be kept as many more.

6—Care until the bearing-season is over. In common with all other plants, the strawberry-beds must be kept clean from grass and weeds, the surface occasionally stirred, and the earth lightly replaced to the roots. The attention peculiar to the plant consists only in taking off the runners. The mode of doing this I consider all-important to successful cultivation, for the fibre is strong, and whenever jerked off by the hand the root of the plant is shaken, its tender shoots broken, and its growth always impeded, often entirely put an end to. I hold it to be indispensable, that the runners should be clipped off by scissors, or cut with a sharp instrument. The most simple and expeditious mode is, by fixing the blade of the knife, or something of the kind, obliquely on the end of a short staff, so as to do it in a standing posture, and with an oblique cut. This I have always found most difficult to get our slaves to perform as it ought to be done; but it must be enforced, or you will find your bed unequal in growth, and uncertain in production.

We find the name of strawberry attributed in the books to the practice, said to be prevalent among European gardeners, of raising the fruit from the ground by adjusting straw to the root. In our sandy soil, I am fully sensible of the benefits to be derived from the practice, for the fruit becomes gritty, covered with earth, and of an earthy flavour often, when in contact with the soil. Besides which, worms, that never quit the earth, often attack it in that situation, and destroy it wholly or partially. But the trouble and difficulty of procuring the straw proper for the purpose, have prevented me heretofore from resorting to the practice. This year, however, an experiment to determine how close the Holcus Sorgum (Geinea corn) may be planted in drills, to be productive, has put me in possession of an article and a fact, that will enable me to avail myself of this improvement. Thus planted, the holcus produces an abundance of straight, slender, tall, and durable stocks, and yet abundantly rewards the cultivator with its grain. These stocks will answer admirably to be applied on both sides of the plant, and can easily be sustained in their places by pins, until the bearing season is over. I anticipate a great improvement from it; and every garden can advantageously cultivate a sufficient quantity for its own use.

7—Care necessary after the bearing season is over. Those who hear me, if any have never cultivated this plant, will perhaps be surprised to know that this is the most troublesome part of the year in cultivating the strawberry; or at least, that part of the year in which it is most difficult to know what is to be done. From the month of October to the month of June, the beds are kept clear by comparatively small labour; and so far it is an article of very easy cultivation. But from that time, to keep the beds clean and the runners in check, require no little labour, and is always attended with this danger, that by keeping the earth exposed to the sun, the soil is impoverished, and the roots exposed to be killed by the heat; an evil which, if the summer is not more rainy than ordinary, will often extend to your whole bed, unless prevented by shade or irrigation. And on the other hand, if you suffer the grass and runner to grow, the grass, if your land is at all in heart, will be apt to kill down every plant, and leave you a very feeble stand, if any thing, when you have cleaned up your beds. Indeed, in extracting the roots of our crab grass, every strawberry root that remains, if alive, will be so shaken as to endanger its existence, or render it very feeble, besides destroying all your suckers. The great risk of losing even my plants from these causes, induced me to plant peach trees over one of my beds; and these or any other deciduous trees will in a great measure protect the plants in summer, without shading them too much in winter. But, otherwise, we must submit to the labour of keeping clean and watering liberally.

These facts have raised in my mind the doubt whether it would not be good economy to make new beds annually, and only preserve as much of the old as will supply an abundance of plants. It is true, this will be injurious both to the uniform quality and quantity of the fruit; but it will be a saving in labour and care. Quantity may easily be supplied by extending the planting; and if the beds be planted by the first week in October, in a soil of a suitable fertility, the quality of the fruit will be very respectable. I would not be understood as recommending this alternative, but only as submitting it to the consideration of the experimenter. It will, however, be always prudent (and such is said to be the practice of the European gardeners), to have a nursery of plants in a shaded spot, or one of a northern aspect, and even then not to neglect irrigation. For want of attention to this precaution, I have known sundry individuals who had to depend annually on their neighbours for plants, whereas a prudent manager will always have them to give away, if ever he has once fairly embarked in the cultivation of this article.

Upon the whole, I will conclude with this remark, that success in raising the strawberry will depend mainly upon —1st, Establishing and dressing your beds in the proper season; 2d, Producing the proper medium of fertility in the soil; 3d, Taking away the runners without shaking the roots; 4th, Keeping your beds in good heart and clean; 5th, Watering and shading without stint when the season requires it; and lastly, In never crowding your plants unreasonably, for in this instance may the farmer's rule most emphatically be applied, "that the half is worth more than the whole."

PRUNING FOREST TREES.

It would be well for farmers who have leisure to prune during the winter months. It is far better to do it now than to neglect it altogether. This subject we conceive is of considerable importance, and we shall more frequently bring it before our readers. The following observations are from the Sylva Americana:

A timber tree, as before observed, is valued for its length, straightness, and solidity of its stem. Judicious pruning tends greatly to assist nature in the formation of the stem in this perfect state. In natural forests, boles or stems possessing properties of the most valuable kind are found, where no pruning, trenching, or any other process of culture ever was applied to the rearing of the trees. It should not, however, be concluded from this circumstance that these processes are of little value. If we examine the growth of trees, when left to the unassisted efforts of nature by the neglect of pruning and thinning, we find that but a small number only, on any given space of planted ground, attain to perfect maturity, compared to those which never arrive at any value but for fuel. The like results, though varying according to local advantages, are exhibited in the produce of self-planted forests. Hence, instead of an average of two or three perfect trees on any given space (suppose an acre) left by the unassisted efforts of nature, we shall have from forty to three hundred perfect trees, according to the species of timber, by the judicious application of art in the preparation of the soil and the after culture of the trees, and probably on soils, too, which, without such assistance, could never have reared a single tree.

The time at which pruning should begin, depends entirely on the growth of the young trees. In some instan-

ces of favorable soil and quick growth of the plants, branches will be found in the course of four or five years to require foreshortening, and in case of the formation of forked leaders, to be pruned off close to the stem. When the lateral branches of different trees interfere with each other's growth, pruning, so as to foreshorten, should be freely applied in every case, in order to prevent the stagnation of air among the branches, or the undue preponderance of branches on one side of the tree. Perfect culture, in this respect, requires that the plantation should be examined every year, and by keeping the trees thus in perfect order there will never be any danger of making too great an opening, or depriving a tree too suddenly of a large proportion of branches. The operation will also be so much more quickly performed, as to render the expense of management less than if the pruning were delayed, or only performed at intervals, as is too frequently practised.

By examining the trees of a plantation annually, the critical time for pruning every branch for the best interest of the trees is secured. Some trees may be pruned with great advantage successively for years, while others may only require it every three or four years, and others again not at all.

Judicious thinning may be said to be productive of the same valuable effects to a plantation of timber trees in the agregate, as those which judicious pruning produces on every individual tree composing it; by the admission of a proper circulation of air and the solar rays, and permitting the free expansion of the essential lateral branches of the trees, as well as by preventing an unnecessary waste or exhaustion of the soil by the roots of all supernumerary trees.

The great advantages of judicious thinning are not confined to the object of obtaining the largest quantity of timber of the best quality on a given space of land in the shortest space of time; but the produce of the trees thus thinned out ought to afford a return sufficient to pay the expenses of culture, interest of capital, and the value of the rent of the land. In many instances the profits arising from the thinnings of well managed woods have covered these charges before the period of twenty years from the time of planting. The time at which the process of thinning should be commenced, depends on the like causes as those which regulate pruning, and need not here be repeated.

In general the forest growing plantations require to have a certain number of trees taken out by the time they have attained to eight years of growth from planting. On forest tree soils of a medium quality, the age of ten or twelve years may be attained by the young trees before thinning is necessary; but should fifteen years elapse before the trees demand thinning, if will be found that the plantation has been imperfectly formed.

No certain rule can be given to determine the number of trees to be thinned out periodically, which will apply to all plantations and to every kind of forest tree in them. A well-grounded knowledge of the principles of vegetable physiology, and of the habits of trees, is absolutely essential, to execute with success this very important branch of arboriculture.

ON THE CULTURE OF THE IRISH POTATO;

By a Young Farmer.

Mr. Editor: *Charleston, July 5, 1822.*

I observed in your March number of the Southern Agriculturalist, an account of an experiment made on the culture and time of planting the Irish potato, by "Q in a corner."

With your leave, I will now give Mr. "Q in a Corner," through your useful journal, an account of a successful experiment made on my farm this season.

Early in January last, I selected a piece of land, and made drills four feet apart and six inches deep, in which I laid straw an inch thick, and on this put a compost of stable and cowpen manure to about the same thickness, that is two bushels to a task row, on which I placed my potatoes (being previously cut, each piece having no less than two eyes,) six inches apart, and covered them with the earth taken out of the drill. As soon as they came up, I covered them with straw and old hay, and listed on this lightly, when they came up a second time, which was about the last of March. I banked on them, and on the 18th of April hoed, and few days after hauled them.

The vines of these potatoes were uncommonly long, and it was the opinion of my neighbors, as well as of myself, that they would bear very small and few.

On the 8th of May I commenced digging them, and to my astonishment found them very large and thick. Thus I had the finest and first in the Charleston market this season; and when the market was overflowed with them, I always could command the highest price for ready sale.

I remain, respectfully,
Your obedient servant,
A YOUNG FARMER.

P. S. I forgot to state that the tops of these potatoes were killed by the last of those two very severe frosts which fell last winter.

The Hopetoun Oat.—No season since the discovery of this new variety in 1829 has afforded so complete a test of its merit as the present. Oats of every kind have a rich luxuriant appearance this season; but the Hopetoun still preserves its superiority in earliness, length of straw, and closeness of crop. A small field of ten acres on the farm of Haughland, near Elgin, was sown the 16th of March on a wheat stubble, and had about ten single cart loads of manure per acre. The whole was fully in ear on the 10th of July, and should the weather prove dry and warm might be expected to be shorn on the 10th or 12th of August.—Last year the Hopetoun oat was cut on that farm, 11th August. Persons of skill have valued the field at 10 quarters per acre. This variety seems therefore well deserving the attention and culture of farmers.—Scotch paper.

Two Headed Turtle.—The young turtle with two heads, mentioned a few days ago in the Philadelphia papers, has been brought to this city and is to be exhibited. It is very small, being only about two inches in length, but the heads and neck are perfect, united at the body. The heads move, and the eyes close independently of each other; and although the whole animal generally moves as if impelled by one will, the legs sometimes appear to strive in opposite directions. It was one of these contentions, it was supposed, to which the animal owed his capture. A gentleman in Westchester county, Pennsylvania, discovered it in a marsh, about ten days ago, while engaged in a struggle with itself. One of the heads is rather larger than the other. They sometimes eat together, and occasionally one eats alone.—[New-York Advertiser.]

[From Cuvier's Animal Kingdom.]

SERPENTS.

It is but rarely that serpents will attack man without being provoked;—and it is curious to observe that their poison is more subtle and active in proportion to the heat of the climate which they inhabit. The hot and humid steppes and savannahs of Asia and America, and the burning sky of the African deserts, seem by far the best suited to these reptiles. Only 15 or 16 of their species inhabit Europe, while there are 43 merely on the coast of Coromandel.—Equatorial America, scorched by the burning rays of the sun, and watered by those immense rivers which roll their waves towards its eastern boundaries, furnishes of itself alone, according to Humboldt, 145 species.

In the provinces of South America, the earth, peculiarly lavish in the support of poisonous weeds and hurtful animals, has peopled with impure and dangerous reptiles the inundated morasses, and yet untrodden forests of these mighty regions. They swarm in Surinam, in French Guiana, in Peru, in Brazil, in the neighborhood of the low-

er Orinoco, in Nicaragua, and in Panama. Twice a year they lay an immense number of eggs, and are so excessively abundant that when the natives set fire to the brushwood, &c. with which the country is covered, whole armies, as it were, of formidable serpents, sally forth, in all directions, in crowded ranks, to the number of 30,000 or 40,000 at a time, covering acres and putting all to flight before them.

But in colder climates a few individuals only are found scattered over a large extent of territory. They begin to be scarce as far north as Germany and Russia, still more so towards Siberia, and totally disappear as we approach the polar regions. Neither are they found upon high mountains beyond an elevation of 5,000 or 6,000 feet.

But among all known serpents there is scarcely one fifth or even one sixth part of them that may be considered of a really dangerous character. Among the 43 species in the East Indies, only 7 are to be feared. One writer estimates 223 species in the East, of which only 80 were venomous. Only one in four in Europe, are very poisonous.

TEXAS.

By a reference to the constitutions of the Federal State Government, and the laws passed by the Legislative authorities both, it will be perceived security is offered to all foreigners, who come to establish themselves among them, and the State of Coahula and Texas invites them to come.

It is about 8 years since the authorized emigration to Texas commenced: but few were acquainted with the inducements which that fine country offered to the enterprising and industrious settler.

The early emigration was but very slow. Stephen F. Austin, Esq. may be said to be the great pioneer to that then wilderness world; his was not only a trial of courage, but of great fortitude and perseverance. The first season he raised a little corn, and as numbers flocked to him, depending on his liberality and bounty, it created a great scarcity of grain, yet such was his determination and perseverance, rather than abandon an enterprise which promised so much in future, that he limited his dependents to half a pint of corn a day, and then divided his own half pint with his friends. By such self deprivations he sustained the colony, at an early period of its existence; it continued to increase in population and in the means of support, until it has become a rich, populous, and flourishing country, and its founder a distinguished and highly respectable and wealthy man. His grant must at this time contain from 8 to 10,000 inhabitants. Several flourishing villages are springing up as it were by enchantment, among which are St Felippe de Austin, Brassora, Harrisburgh, Fayette, &c. These are considerable villages, and are peopled by a contented, happy, and respectable population. In each town there are several respectable public houses, where the traveller is politly entertained, and in travelling through the country, the rights of hospitality are nowhere refused to those who are worthy to receive them.

Courts of justice are established not only in Austin's Colony, but throughout the settled parts of Texas; they are governed by a fixed code of laws, and justice is as impartially administered there as in any other country. Every town has its justice, (Alcaide,) before whom all parties are cognizable, and are tried by arbitration, each party choosing one, and the Alcaide making the third. There is also the court of Ayuntamiento, composed of several judges, who have original and appellate jurisdiction, and on important occasions, particularly in criminal matters, an appeal lies to the supreme court at Sattillo.

Besides the towns already mentioned, there are other considerable towns in Texas, Nacogdoches, Bexar, La Bahia, del Espiriter Santo, Gaudaloupe, or Walpole.—These are settled principally by native citizens; also Metamoras, on the Rio Grande, or del Norte, is a place of much importance. It is differently represented as containing from 8 to 12,000 inhabitants, principally Mexican. The American and English population is supposed to be about 600, among which are many highly respectacle citizens. The commercial business of that town and country, is principally conducted by foreigners. The official statement of the amount of duties received at the port of Metamoras for the financial year, ending the 30th of June, 1831, amounts to $1,046,078 5 3. The increase for the last year was $652,183 5 8. The country to the west, even Santa Fe, and bordering on the Pacific Ocean, receives a great portion of their merchandise through this port. It is transported by mules, each carrying a cargo of 300 pounds to the interior. The gold and silver, coined, and in bars, furs, provisions, &c. are returned by the same means of conveyance to Metamoras. Cattle, horses, sheep, goats, &c. at and in the neighborhood of Rio Grande, are numerous and cheap—the cattle are extremely fine, and of larger growth than can be found in almost any other part of the world. The price of oxen, broken, averages from 20 to 25 dollars the pair; a cow of the largest size, with her calf, at from 5 to 6 dollars; a breeding mare, from 3 to $6; and a good riding horse can be purchased at Metamoras for from 8 to $12.

The country abounds with large ponds, and apparently rivers of salt water. These salt ponds are much frequented by the wild cattle and horses which cover the whole face of the prairie, particularly the wild horses, or MUSTANG as they are called by the Mexicans. Droves, judged to contain from 3 to 4,000 wild horses, are caught and broken by the Mexicans and Indians, and make serviceable good horses. The lands, or as it is called, the country of the Cormanches, lying north and west of that last described is also situated in Texas, and is represented to be very desirable land. It is of the richest soil, gently rolling, a due proportion of wood land and prairie, abounding in springs, and rivers of excellent water, a salubrious climate; and in the possession of a civilized, industrious community, would not be surpassed by any on earth. Such is the uniform testimony of all foreigners.

Although agriculture is in its infancy among them, its final success is by no means problematical. Extensive orchards of lemon and orange trees have been planted; their growth has been rapid, and the produce abundant. In two years from the seed, the peach tree bends under its fruit. The fig is produced in great plenty. The Irish and sweet potato and all kinds of garden vegetables grow and produce well—as also wheat, rye, barley, oats, and all the small grains and plants common to the United States. Sugar, cotton, and indigo are cultivated to advantage, and will shortly be produced in great quantities for export. It is calculated that there is more than 70,000 acres of sugar land south of latitude 30 deg. In Austin's colony alone the last year about 1,500 bales of cotton and 80 hhds. of sugar were made, and nearly the same quantity of sugar on the Trunby. A number of sugar mills and cotton gins are in operation, and more are building. Indian corn grows luxuriantly in Texas, and produces as much in the acre as is produced in the best corn lands in Kentucky or Illinois. In short, Texas, in the richness of her soil, the salubrity of her climate, the luxuriance of her herbage, and the extent and variety of her productions, is not excelled by any country on the globe.

The emigrant to Texas, can in a few days at least erect a temporary dwelling, and be able at once to commence the cultivation of his farm, and to procure an early supply of vegetables, corn, &c. for the support of his family. He selects a portion of prairie, which is already cleared—he has only to plough the earth to enable him to plant and sow, and realize at once what could not be procured in a timber country, except by days and months of laborious industry in clearing and preparing his land for cultivation.

By law the new colonists are free from taxes for ten years: this enables them to realize all the fruits of their labor, and is a privilege not enjoyed in any other country.

Although Texas is situated between 28 and 35 degrees N. lat. the climate is considered mild and healthy. Through

the summer months the heat is tempered and allayed by refreshing sea breezes. It is a fact worthy of remark that the breeze generally increases as the sun rises above the horizon.

Texas in its usual and most extensive acceptation, comprises the whole territory lying between the south-west boundary of the United States and Rio Grande, alias the river Bravo del Norte, the Gulf of Mexico on the south, and the Arkansas and Mississippi territories of the United States on the north.

The rivers of Texas are the Sabine, the Natches, the Trinity, San Jacinto, Brassos, Colorado, La Baca, Guadalope, Neuces, and several others.

These rivers water a country that is seldom exceeded in fertility of soil, or beauty of aspect. The bottom lands are composed of the richest alluvion, and are thickly set with timber, or dense cane brakes, and sometimes both.—The uplands are generally good, and much of them characterized by a deep luxuriant loam.

The surface of the country is greatly variegated with woodland, and prairies, or natural meadows, containing 100 to 1,000 and some places 10,000 acres in one body.

The timber includes many varieties, among which are several kinds of oak, hickory, black walnut, ash, wild cherry, mulberry, elm, hackberry, pecan, linn, gum, yellow pine, &c. Cypress is found on the Natches, and the Sabine—live oak abounds in some parts of Texas, and grows to a large size—red Cedar is found, and like the live oak, furnishes an excellent material in the naval architecture. The pine grows large and lofty, and will be immensely valuable for lumber; it is most frequently found interspersed with other varieties of timber, such as hickory, oak, &c. which indicates a good soil.

One distinctive characteristic of this beautiful country, is its exception from swamps and stagnant pools. The land invariably ascends from the water courses, and rising to moderate eminences, precludes the formation of swamps or putrid ponds, This probably is one efficient cause of the singular purity, elasticity and equability of the atmosphere. That Texas is blessed with a climate of uncommon salubrity and delightfulness is an opinion warranted by the observations all travellers, and obviously accounted for by its locality and configuration.

The red fish abound in Galveston, Oyster beds are abundant, they are fine and sometimes large, and may be conveniently gathered. In the winter season the waters near the coast are literally covered with wild fowl, such as ducks, geese, brant, and swan. Geese and ducks resort in great quantities to the interior waters. Deer and wild fowl are common every where.

Texas is not only an agricultural and stock producing country, but it abounds in valuable metals, fossils, many rich specimens of silver ore have been found, and there is no question that the metal exists in large quantities. Tradition speaks of gold. The master metal iron has been discovered in many places, and not remote from navigable water. Lead has been found without being sought for. Indications of stone coal have been discovered.

GENERAL MANAGEMENT OF THE HORSE.

[From the Library of Useful Knowledge.]

Grooming.—Of this much need not be said, since custom, and apparently without ill effect, has allotted so little of the comb and brush to the farmer's horse. The animal that is worked all day, and turned out at night, requires little more to be done to him than to have the dirt brushed off his limbs. Regular grooming, by rendering his skin more sensible to the alterations of temperature, and the inclemency of the weather, would be prejudicial. The horse that is altogether turned out needs no grooming. The dandriff or scurf which accumulates at the roots of the hair, is a provision of nature to defend him from the wind and the cold.

It is to the stabled horse, highly fed, and little or irregularly worked, that grooming is of so much importance. Good rubbing with the brush or the currycomb, opens the pores of the skin, and circulates the blood to the extremities of the body and through the minute vessels of the skin, and produces free and healthy perspiration, and stands in the room of exercise. No horse will carry a fine coat without either heat or dressing. They both effect the same purpose; they both increase the insensible perspiration; but the first does it at the expense of health and strength, while the second, at the same time that it produces a glow on the skin, and a determination of blood to it, rouses all the energies of the frame. It would be well for the proprietor of the horse if he were to insist upon it, and to see that his orders are really obeyed, that the fine coat in which he and his groom so much delight, is produced by honest rubbing, and not by a heated stable and thick clothing, and most of all, not by stimulating or injurious spices.

When the weather will not permit the horse to be taken out, he should never be groomed in the stable. Without dwelling on the want of cleanliness, when the scurf and dust that are brushed from the horse lodge in his manger, and mingle with his food, experience teaches, that if the cold is not too great the animal is braced and invigorated from being dressed in the open air, to a degree that cannot be attained in the stable. There is no necessity, however, for half the punishment which many a groom inflicts upon the horse in the act of dressing, and particularly on one whose skin is thin and sensible. The currycomb should at all times be lightly applied. With many horses its use may be almost dispensed with; and even the brush need not be so hard, nor the points of the bristles so irregular as they often are. A soft brush, with a little more weight of the hand, will be equally effectual, and a great deal more pleasant to the horse. A hair cloth, while it will seldom irritate and tease, will be almost sufficient with horses that have thin hair, and that have not been neglected.

Whoever would be convinced of the benefit of friction to the horse's skin, and to the horse generally, need only observe the effect produced by well hand-rubbing the legs of a tired horse. While every enlargement subsides, and the painful stiffness disappears, and the legs attain their natural warmth, and become fine, the animal is evidently and rapidly reviving; he attacks his food with appetite, and then quietly lies down to rest.

Exercise.—Our observations on this important branch of stable management must have only slight reference to the agricultural horse. His work is usually regular, and not exhausting. He is neither predisposed to disease by idleness, nor worn out by excessive exertion. He, like his master, has enough to do to keep him in health, and not enough to distress or injure him; on the contrary, the regularity of his work prolongs life to an extent rarely witnessed in the stable of the gentleman. Our remarks on exercise, then, must have a general bearing, or have principal reference to those persons who are in the middle stations of life, who contrive to keep a horse for business or pleasure, but cannot afford to maintain a servant for the express purpose of looking after it. The first rule we would lay down is, that every horse should have daily exercise. The horse that, with the usual stable feeding, stands idle for three or four days, as is the case in many establishments, must suffer. He is disposed to fever, or to grease, or, most of all, to diseases of the foot; and if, after these three or four days of inactivity, he is ridden fast and far, is almost sure to have inflammation of the lungs or of the feet.

A gentleman or tradesman's horse suffers a great deal more from idleness than he does from work. A stable-fed horse should have two hours' exercise every day, if he is to be kept free from disease. Nothing of extraordinary or even of ordinary labour, can be effected on the road or in the field, without sufficient and regular exercise. It is this

alone which can give energy to the system, or develope the powers of any animal.

How, then, is this exercise to be given? As much as possible by or under the superintendence of the owner. The exercise given by the groom is rarely to be depended on. It is inefficient, or it is extreme. It is in many cases both irregular and injurious. It is dependent on the caprice of him who is performing a task, and who will render that task subservient to his own pleasure or purposes.

In training the hunter and the race-horse, regular exercise is the most important of all considerations, however it may be forgotten in the usual management of the stable. The exercised horse will discharge his task, and sometimes a severe one, with ease and pleasure, while the idle and neglected one will be fatigued ere half his labour be accomplished, and if he be pushed a little too far, dangerous inflammation will ensue. How often, nevertheless, does it happen, that the horse that has stood inactive in the stable three or four days, is ridden or driven thirty or forty miles in the course of a single day. This rest is often purposely given to prepare for extra exertion: to lay in a stock of strength for the performance of the task required of him; and then the owner is surprised and dissatisfied if the animal is fairly knocked up, or possibly becomes seriously ill. Nothing is so common and so preposterous, as for a person to buy a horse from a dealer's stable, where he has been idly fattening for sale for many a day, and immediately to give him a long run after the hounds, and complain bitterly, and think that he has been imposed upon, if the animal is exhausted before the end of the chase, or is compelled to be led home suffering from violent inflammation. Regular and gradually increasing exercise would have made the same horse appear a treasure to his owner.

Exercise should be somewhat proportioned to the age of the horse. A young horse requires more than an old one. Nature has given to young animals of every kind a disposition to activity; but the exercise must not be violent. A great deal depends upon the manner in which it is given. To preserve the temper and to promote health, it should be moderate, at least at the beginning and the termination. The rapid trot, or even the gallop, may be resorted to in the middle of the exercise, but the horse must be brought in cool. If the owner would seldom intrust his horse to boys, and would insist on the exercise being taken within sight, or in the neighbourhood of his residence, many an accident and irreparable injury would be avoided. It should be the owner's pleasure, and is his interest, personally to attend to all these things. He manages every other part of his concerns, and he may depend upon it that he suffers when he neglects, or is in a manner excluded from his stables.

BUFFALO HUNTING, ON THE UPPER MISSOURI.

A correspondent of the Commercial Advertiser who dates from the mouth of the Yellow Stone, gives the following interesting account of Buffalo hunting west of the Mississippi. We have it not in our power to present our readers the entire letter, which we the more regret as the writer presents a very graphic description of the scenery, habits, customs, amusements, &c. of the inhabitants of this delightful region of the "far west."

In speaking of the numerous tribes settled round the fort of the American Fur Company, at this place, he says, "The buffalo herds which always graze upon the beautiful prairies in countless numbers, afford them abundance of meat; and so much is it preferred to all others, that the deer, the elk, and the antelope, sport upon the prairie in herds in the greatest security, as the Indians never kill them unless they want their skin for a dress.

He thus treats of Mr. M'Kensie's (the commander) manner of killing his beef:

"He starts with three or four men, on horseback, with two or three carts following at a distance, and oftentimes within view of the fort, if not within a mile or two, they will ride amongst a band of them, and in a few minutes kill ten or twelve of them, selecting the fattest of the herd. These scenes are exceedingly spirited and beautiful, furnishing decidedly the finest subjects for the pencil of any sporting scenes in the world. The horses in this country are all trained to it, and know exactly how to approach the animal, without being guided by the bit. A short light gun is used for the purpose. The rider guides his horse at full speed, until he has selected the object of his prey; he directs his horse to it, then drops his bridle, and the horse at full speed approaches the animal on the right side within eight or ten feet, when the shot is generally given with such precision through the vital parts of the body, that he seldom runs more than a hundred yards before he falls.

I rode in the midst of several of these scenes rather to study than to slay. In one of them, however, finding my horse had brought me so fairly along side of a bull of the largest size, I caught, as my horse had, the enthusiasm of the chase, and with my double-barrelled piece so disabled him, that he was immediately left by the band. I halted, and saw my comrades sweeping over the prairies, mingling in the midst of the herd, and leaving at every few rods the dying victims on the plains. I was willing to stop the pursuit, for I found that I had luckily so disabled my bull that he could make none or but little advance upon me, although he was continually rising upon me. Here was a scene for the painter or the statuary, and worthy of the sublime ideas of Michael Angelo. Not the tiger nor the black-maned lion of Africa could have looked half so furious or so frightful. I defy the world to produce an animal in his looks so furious and frightful as the buffalo bull, when he is roused into a rage, with his long shaggy mane covering his shoulders, and falling to the ground. In this condition I drew my sketch-book from my pocket, and by riding towards and around him, and exciting his fury, I was enabled to catch the very attitudes and expressions that I wanted. The party returning, at length, with some anxiety for my safety, and finding me dismounted and busily engaged, with this infuriated gentleman before me standing for hir likeness, were not a little surprised and amused. When my series of attitudes and expressions were finished, a shot through his head finished the scene.

[From the New-York Standard.]

ANECDOTES OF ANIMALS.

THE ICHNEUMON.—M. D'Obsonville had an Ichneumon which he had brought up almost from its birth. One day he brought to it a small water serpent, alive, being desirous to ascertain how the ichneumon's instinct would lead him to act against a creature with he was hitherto unacquainted. He at first appeared astonished and angry, for his hair became erect; but in a moment he slipped behind the reptile, and with astonishing agility leaped upon its head, seized, and then crushed it between its strong teeth. This essay and new aliment seemed to awaken in him his innate and destruc-

tive voracity, which till then had given way to the gentleness he had acquired from his education.

THE KANGAROO.—When tamed, this animal is a mischievous wag, creeping and snuffing cautiously towards a stranger, with such an innocent expression of countenance, that roguery would never be suspected to exist under it; having obtained, as he thinks, a sufficient introduction, he claps his forepaws on your shoulders as if to caress you, and raising himself suddenly upon his tail, administers such a well-applied push with his hind legs, that it is two to one but he drives you heels over head! This is all done in what he considers facetious play, with a view of giving you a hint to examine your pockets, and see what *bon bons* you have for him, as he munches comfits and cakes with epicurean *gout*; and if the door is ajar, he will gravely take his station behind your chair at meal time, like a lackey giving you an admonitory kick now and then, if you fail to help him as well as yourself.

THE OPOSSUM.—Dr. Godman observes that the opossum can cling by its *feet*-hands to a smooth silk handkerchief or silk dress, with perfect security; it can climb up a skein of silk, or even a few threads. The slightest projection or doubling of any material, affords it a certain means of ascending to any desired height. Another curious and amusing peculiarity, is its prehensile tail; by simply curving this at the extremity, the opossum sustains its weight, and depends from the limb of a tree or other projecting body, and, hanging in full security, gathers fruit or rifles a bird's nest, or seizes any prey within its reach; to gain its position on the limb, it is only necessary to make a little stronger effort with the tail, throwing the body upward at the same time.

THE ARMADILLO.—Mr. Waterton, in his whimsical "Wanderings in South America," says that the armadillo is very common there, and burrows in the sand hills like a rabbit. As it often takes a considerable time to dig him out of his hole, it is a long and laborious business to attack each burrow indiscriminately, without knowing whether the animal is there or not. To prevent disappointment, the Indians carefully examine the mouth of the hole, and put a short stick into it. If, on introducing the stick, a number of mosquitoes come out, the Indians know to a certainty that the armadillo is there; but if there be no mosquitoes, there is no armadillo.

THE SLOTH.—A sloth pent up in a cage appears in perpetual pain: but place him on a tree, and his long, sharp, curve claws, enable him readily to travel from branch to branch; on a smooth floor he is in misery, The application of the term *Sloth* to these animals is not, strictly speaking, correct; their extraordinary slowness of motion is not effect of indolence, but is an essential part of their nature, and it is no more in their power to quicken their movements, than it is for the hare to creep or the stag to crawl. It is in vain to urge, to stimulate, or strike them; nothing in the world can hasten their progress. It has been calculated that one of these animals would employ an entire day to make fifty steps; from this it follows, that, supposing it proceeded without interruption, it would take nearly a month to travel a single mile.

UNION AGRICULTURAL SOCIETY.

WE are indebted to an unknown friend for a number of the "Union Times," printed at New Berlin, Pennsylvania, containing the proceedings of the Cattle Show of the Union Agricultural Society, which was held at Lewisburg, Oct. 30, 1832, and the address delivered on the occasion by James Merrill, Esq. The society embraces the counties of Northumberland, Columbia, Union, and Lycoming. The display of domestic manufactures, of horses, cattle, sheep, hogs, &c. was large and fine. Premiums amounting to over $150 were awarded. Charles Gale, Esq. was chosen President; William Hays, Vice-President; Wm. A. Petrikin, Secretary; Col. J. Paxton, Assistant Sec.; and William Tweed, Treasurer. The next exhibition is to be held at Danville, Columbia county, on the last Tuesday in October, 1833. We regret that we have not room for the whole of the excellent address of Mr. Merrill. We make the following extracts.—*Genesee Farmer.*

BENEFITS OF AGRICULTURAL SOCIETIES.

The first great question in farming is this:—How shall we obtain the greatest returns for capital and labour? This secret can be completely unfolded only by repeated trials. But trials in one country will not always show the truth in another. This is the true secret of the philosopher's stone; but we must take notice that the process is very different. Very good gold may be found in one country by a way, which in another will only uncover slate stones. It is for this reason that we cannot fully profit by the experience of European agriculturists, or even of those of our own country a little to the north or to the south of us. The question then arises, how far can we profit by their experience? How many of their practices dare we imitate? How many of their unsuccessful experiments may be useful here, and with what variations in the details? If one man must try all these experiments, he will probably not live to know and profit by the results of one-half of them. The benefit of his actual improvements will be confined to his immediate neighbourhood. Here is one very important point, in which societies like ours are useful. One has tried one thing, and another has tried another thing, till at last they are all tried. The success or failure, the profit or loss, together with a detail of the proceedings, becomes known by our meetings, or by our publications. In all other things, union produces strength. Why should it fail here? There is no reason to suppose it will fail here—it does not. The universal experience of all countries proves that agricultural societies have raised the standard of farming; and let me be excused for saying, have expanded and liberalised, and in every way improved the minds of the farmer. Consider, also, that agriculture is *the* great interest of the country; that whatever importance may be attached to other pursuits, agriculture supports all and pays all. How important, then, that its modes of operation be the best. Let it further be borne in mind, that a society may promote many improvements at a trifling expense to the members, which would be beyond the means of an individual. But how can the usefulness of our society be increased? I answer, in the first place by obtaining more members—by giving our managers the command of greater funds, and enabling them, by offering more and larger premiums,

to excite a greater emulation amongst us. Premiums are in an especial manner necessary. A man may not be able to do a thing the first time without loss, which ever after he and all others may do with a profit. Our government, by its Patent Law, has provided for the remuneration of the labours of ingenious men, by the exclusive use of their inventions. We ask them to communicate their discoveries to the public, and take from us such a reward for their labours as we can afford to give them. But some may say, we have the best land and the best mode of farming now; the rest may copy after us. Indeed! I should be sorry to shake any man's good opinion of himself too rudely; but I would just say to such, if such there be, that the best cultivated acre in Buffalo Valley, would in Holland be thought slovenly and unprofitable farming. I freely admit that there are good farmers in Buffalo Valley; but the one-half of what was a plantation fifteen years ago, yields more profit now than the whole did then. The time is approaching when the half of this division of a plantation will be a farm. It must then be better cultivated than it is now. It is a mistake to think that any part of our country is cultivated in the best possible manner.

BOOK FARMING.

But will any one say this book farming is all nonsense? it answers no good purpose? How is a true thing the worse for being printed? and how much easier it is to detect a printed lie, than one that goes from mouth to mouth with *instant* variations. You have the facts put down so that they cannot be altered. And if it depends upon one man telling his neighbour, and he another, the fourth man's story bears scarcely any resemblance to the first. It might, indeed, come back to the first man as a piece of great news. Carpenters, millwrights, and workers in metals, all study their books. A farmer will hunt up an old newspaper to find somebody's new way of curing hams; but if he is asked to read in a book a way of increasing his crops, his answer is, pshaw! don't I know all about it?

SILK.

We learn from the address that the Society have offered a premium of $100, to encourage the culture of the Mulberry.

CONCLUSION.

In conclusion, I have only to say to you, gentlemen of the society, persevere! Our cause is a good one, and while it promises many benefits, it does not threaten one evil to our country. Let every one try to improve. In the moral world, nobody is so great a villain that he does not think somebody worse. So in agriculture—no farmer ts so slovenly and improvident that he cannot point out others, in his opinion at least, worse than he. This is not the kind of comparison we ought to draw. He that would go high, must look higher. Let every one see wherein his neighbor excels him, and try to overtake him; and not rest contented when he has found a lazier man than himself in the neighborhood. Let us never forget, that after all our strivings, there is one that giveth the rain and the sunshine—the seed time and the harvest; and we are bound to ask him and to thank him for all his blessings.

ON THE FLOWERING OF VINES.—It is often observed that healthy and vigorous growing vines, even in favorable seasons, never produce any, or but very little fruit. This is sometimes occasioned by the plants producing only male flowers, and in these cases the anthers are sessile, or if the filaments are present the anthers are wanting. A second cause of this failure is when only female organs are developed, which, however, are sometimes impregnated by insects with the pollen of other vines, and therefore produce berries only very sparingly. A third, and very prevalent cause, is, when the calyx opens on the top and forms a basin, which retains water about the organs of impregnation, and thereby hinders them from performing their respective funtions; all such plants should be either destroyed entirely, or grafted from a free bearing vine that flowers perfectly.—*Gardener's Magazine.*

SINGULAR FACT IN NATURAL HISTORY.—Some years since, a gentleman residing in the vicinity of Boston, had a pea-hen setting on a number of eggs—but the peacock with gallantry, not common among the male sex, watched the opportunity whenever his spouse quitted the nest in search of food, to destroy some of the eggs. In this manner the brute destroyed all but one, when a large house cat, who had long watched both parties, and saw with indignation how cruelly the poor hen was treated, voluntarily undertook the friendly office of setting on the eggs in the absence of the hen, and by their united efforts, the peacock was baffled, and a fine chick was at length produced.

THE NEW VACUUM SUGAR.—The grains of this beautiful sugar are true and well formed crystals. They do not melt so readily as common sugar,—a circumstance that induces some inaccurate observers to imagine that this sugar is not so sweet as common muscovada. The taste is just that of fine candy. The advantage is, that this sugar is far less hygrometric than common raw sugar, and suffers less from a moist atmosphere. The apparatus used in its preparation is a modification of the late Mr. Howard's apparatus used in *vacuo;* with strainers of copper-plates pierced with minute holes, or several folds of wire-gauze for clarifying the syrup. The process is, immediately on crushing the canes, to heat lime, and scum the juice, which, while warm, is forced through the strainer, from which it runs into the boilers. These are provided with air-tight covers, the tops of which are connected by tubes with a large air-pump, wrought by a steam engine. The steam, as generated, is thus drawn off, and the boiling is carried on at a temperature far below the boiling point of sugar. When sufficiently concentrated, the syrup is crystalized, and, when consolidated, it is carried to the curing house, the temperature of which is kept up by steam pipes running into it. This process saves much sugar, for the heating being low, little or no molasses are formed, and a large quantity of sugar is obtained, which, in the old process, is converted into molasses. This apparatus was adopted by sugar growers in Demarara, on the suggestion of a distinguished philosopher in Liverpool. The experiment has succeeded admirably; and the sugar bears a premium in the Liverpool market, especially when required for coffee.—*American Farmer.*

[*For the New-York Farmer.*]

A SCHOOL OF AGRICULTURE.—No. I.

And why not a school of Agriculture as well as a school of Medicine, of Law, or of Divinity? The objects of education should be, not only to qualify youth for the discharge of civil and social duties, but to facilitate their knowledge in the particular business which is to form their employment in manhood; Agriculture is as necessary to the wants and comforts of life, as are the learned professions, and mainly contributes to our wealth and prosperity. It gives employment to the mass of our population, and is the great business of our state. Politically and morally, it is the conservative organ of the body politic. The interests of all are consequently indentified with its prosperity and improvements. Its pursuits are interwoven with the whole range of the natural sciences; and are as susceptible of being benefitted by their study and application, as are any of the civil employments of life. Why not extend, then, to this great branch of industry, that sort of education which is so eminently calculated to multiply its products, and at the same time to raise the moral and intellectual standard of that class of our citizens, who, from their numbers, must continue to control our political destinies, and give the impress to our character as a people.

It will not be said, I trust, that manual labor is incompatible with mental improvement. The exercise which labor gives is as essential to the developement and energy of the mind, as it is to the health and muscular strength of the body. It stimulates the head to plan, and the hands to execute. Among those who truly deserve the appellation of public benefactors, by their successful exertions to render the arts and sciences beneficial to society, our country can boast of a Franklin, a Rittenhouse, a Fulton, a Whitney, and others, who blended labor with study, and who either followed the plough or toiled in the shop.

Among the subjects submitted to the special inquiry of a committee, by the State Agricultural Society, was that of the propriety of establishing an Agricultural School, to give instruction in the theory and practice of husbandry. In anticipation of the report of this committee, I am desirous of calling the public attention to the subject; and I propose to point out, through the medium of your paper, Mr. Editor, some of the bearings which such a school is calculated to have upon the character, prosperity, and happiness of the state.

The bounties, like the burthens of the state, should be shared proportionally by all classes of its population. This is not now our case in regard to education. The benefits of the common school system, it is true, are dispensed with an equable and impartial hand. But here the equality ceases. Those destined to toil for a livelihood, to clothe, to feed and to enrich us by their labor, are turned off to shift for themselves, like the younger sons of an English Baron, without patrimony; while the public purse continues open to those who seem destined by chance, rather than by merit, to enjoy peculiar distinctions in society. Our colleges and academies, which share liberally of the public bounty, are vestibules to the *learned*, not to the *laborious* employments—to the *few*, not to the *many*. The studies which they offer are not adapted to the agricultural student, because *he* should learn in youth that which he is to practice in manhood. These schools teach nothing practically in husbandry; nor are their scientific instructions adequately adapted to its uses. The interests of productive labor have but an incidental and precarious place among the studies of a college. The state has expended more than two millions of dollars upon what I term professional schools; but not a cent to advance directly the knowledge of the agriculturist, the artizan or the manufacturer, beyond their common school instructions.—Thus, on the score of justice and impartiality, the laboring classes have a right to claim, and the state are bound to grant them, an equivalent for these professional schools.

The business of husbandry may be likened to the healing art. The farmer, as well as the physician, may plod on mechanically, without the aid of study, or of science,—happy, if you please, in his conceits and in his ignorance. Both may have tolerable success by adopting the example of enlightened neighbors, or following the impulse of their own discriminating minds; yet both would do better were they to understand perfectly the organization and properties of the subjects upon which they are to operate, or are to employ, be those subjects animals, plants, or earths, medicine or manure. Generations have been engaged in investigating the business of both professions, and have handed down to us the result of their study and experience. These lessons of wisdom are considered indispensable to the student of medicine. They are no less beneficial to the student of agriculture.

And what, that is useful, it may be asked, is to be learned in an agricultural school, which cannot be acquired in our existing seminaries, or with a good farmer? This question I propose to answer in another number.

B.

November, 1832.

ON THE POTATO.—*By T. A. Knight.*

Mr. Knight is convinced by the evidence of experiments, "that the potato plant under proper management is capable of causing to be brought to market a much greater weight of vegetable food, from any given extent of ground, than any other plant which we possess." There is no crop, he says "so certain as that of potatoes: and it has the advantage of being generally most abundant, when the crops of wheat are defective; that is, in wet seasons." The following observations are extremely interesting:—

"I think I shall be able to adduce some strong facts in support of my opinion, that by a greatly extended culture of the potato for the purpose of supplying the markets with vegetable food, a more abundant and more wholesome supply of food for the use of the laboring classes of society may be obtained, than wheat can ever afford, and I believe, of a more palateable kind to the greater number of persons. I can just recollect the time when the potato was unknown to the peasantry of Herefordshire, whose gardens were then almost exclusively occupied by different varieties of the cabbage. Their food at that period chiefly consisted of bread and cheese, with the produce of their gardens; and tea was unknown to them. About sixty-six years ago, before the potato was introduced into their gardens, agues had been so extremely prevalent, that the periods in which they, or their families, had been afflicted with that disorder, were

the eras to which I usually heard them refer in speaking of past events; and I recollect being cautioned by them frequently not to stand exposed to the sun in May, lest I should get an ague. The potato was then cultivated in small quantities in the gardens of gentlemen, but it was not thought to afford wholesome nutriment, and was supposed by many to possess deleterious qualities. The prejudice of all parties, however, disappeared so rapidly, that within ten years the potato had almost wholly driven the cabbage from the garden of the cottagers. Within the same period, agues, the previously prevalent diseases of the country, disappeared, and no other species of disease became prevalent. I adduce this fact, as evidence that the introduction of the potato was not injurious to the health of the peasantry at that period; but whether its production was or was not instrumental in causing the disappearance of ague, I will not venture to give an opinion. I am, however, confident, that neither draining the soil (for that was not done) nor any change in the general habits of the peasantry, had taken place, to which their improved health could be attributed. Bread is well known to constitute the chief food of the French peasantry. They are a very temperate race of men, and they possess the advantages of a very fine and dry climate. Yet the duration of life amongst them is very short, scarcely exceeding two thirds of the average duration of life in England; and in some districts much less. Dr. Hawkins, in his Medical Statistics, states upon the authority of M. Villerme that, in the department of Indre, "one fourth of the children born, die within the first year, and half between fifteen and twenty: and that three fourths are dead within the space of fifty years. Having inquired of a very eminent French physiologist, M. Dutrochet, who is resident in the department of Indre, the cause of this extraordinary mortality, he stated it to be their food, which consisted chiefly of bread; and of which he calculated every adult peasant to eat two pounds a day. And he added, without having received any leading question from me, or in any degree knowing my opinion upon the subject, that if the peasantry of his country would substitute (which they could do) a small quantity of animal food, with potatoes, instead of so much bread, they would live much longer, and with much better health. I am inclined to pay much deference to M. Dutrochet's opinion; for he combines the advantages of a regular medical education with great acuteness of mind, and I believe him to be as well acquainted with the general laws of organic life, as any person living; and I think his opinion derives some support, from the well known fact, that the duration of human life has been much greater in England during the last sixty years, than in the preceding period of the same duration. Bread made of wheat, when taken in large quantities, has probably, more than any other article of food in use in this country, the effect of overloading the alimentary canal; and the general practice of the French physicians points out the prevalence of diseases thence arising amongst their patients. I do not however, think, or mean to say, that potatoes alone are proper food for any human being; but I feel confident that four ounces of meat, with as large a quantity of good potatoes as would wholly take away the sensation of hunger, would afford during twenty four hours more efficient nutriment than could be derived from bread in any quantity, and might be obtained at much less expense."

Mr. Knight then proceeds to give an account of the result of his experiments in raising new varieties of the potato from seed, and in growing crops in different soils and situations. He raises new varieties from seeds chiefly by the aid of artificial heat, by which means he obtains, within the first year, a specimen of the produce.

"In raising varieties of the potato from seeds, it is always expedient to use artificial heat. I have trained up a young seedling plant in a somewhat shaded situation in the stove, till it has been 4 ft. and 5 ft. high, and then removed it to the open ground in the beginning of May, covering its stem, during almost its whole length, lightly with mould, and by such means I have obtained, within the first year nearly a peck of potatoes from a single plant. But I usually sow the seeds in a hot bed early in March, and, after having given them one transplantation in the hot bed, I have gradually exposed them to the open air, and planted them out in the middle of May; and, by immersing their stems rather deeply into the ground, I have within the same season usually seen each variety in such a state of maturity as has enabled me to judge, with a good deal of accuracy, respecting its future merits. I stated, in a former communication, two years ago, that I had obtained from a small plantation of the early ash-leaved kidney potato, a produce equivalent to that of 665 bushels, of 80 lbs. each per acre; and my crop of that variety in the present year was to a small extent greater. By a mistake of my workmen, I was prevented ascertaining, with accuracy, the produce, per acre, of a plantation of Lankman's potato: but one of my friends having made a plantation of that variety, precisely in conformity with the instructions given in my former communication to this Society, I requested that he would send me an accurate account of the produce; which I have reason to believe he did, for its amount very nearly agreed with my calculation, upon viewing the growing crop about six weeks before it was collected. The situation in which this crop grew was high and cold, and the ground was not rich; but the part where the potatoes to be weighed were selected was perfectly dry, and afforded a much better crop than the remainder of the field, which was planted with several different varieties. I calculated the produce of the selected part to be 600 bushels per acre; and the report I received, and which I believe to have been perfectly accurate, stated it to be 628. If this produce be eaten by hogs, or cows, or sheep, (for all are equally fond of potatoes,) I entertain no doubt whatever that it will afford twenty times as much animal food as the same extent of the same ground would have yielded in permanent pasture; and I am perfectly satisfied, upon the evidence of facts, which I have recently ascertained, that if the whole of the manure afforded by the crops of potatoes above mentioned be returned to the field, it will be capable of affording as good, and even a better crop, in the present year, than it did in the last; and that as long as a succession of at least equally good crops might be obtained as the cultivator might choose, and with benefit to the soil of the field. Should this conclusion prove correct, a very interesting question arises, viz. whether the spade husbandry might not be introduced upon a few acres of ground surrounding, on all sides, the cottages of day laborers, to and from every part of which the manure and produce might be conveyed, without the necessity of a horse being ever employed. A single man might easily manage four statute acres thus situated, with the assistance of his family: and if nothing were taken away from the ground, except animal food, I feel confident that the ground might be made to become gradually more and more productive, with great benefit to the possessor of the soil, and to the laboring classes, wherever the supply is found to exceed the demand for labor.

[*From the Genesee Farmer.*]

ON THE DURATION OF THE VEGETATIVE PRINCIPLE IN COMMON GARDEN SEEDS.—We have frequently been asked the question, "how long will such a species of seeds retain their vegetative powers?" and there are few points connected with gardening which is more essential for a practical man to understand. We therefore subjoin a statement of *the latest period* at which seeds most generally in demand may be expected to grow freely. It is not to be understood that the periods mentioned are unexceptionable, but it will furnish a fair criterion of the length of time which they may be kept and expected to grow, with but few exceptions.

Cabbage, cauliflowers, brocoli, savoy and kail, four

years; peas, beans, and other leguminous vegetables, one year; beets, ten years; turnips, four years; carrots, one year; parsnip, one year; raddish, two years; spinach, four years; onions, leeks, and other alliaceous plants, two years; asparagus, four years; sea kail, three years; lettuce, three years; endive, four years; mustard, four years; celery, ten years; parsley, six years; cucumber, melon, gourd, and pumpkins, ten or more years. Annual and perennial flower seeds generally two years. Tree seeds are not in general to be depended upon after the first year. Any seeds which are subject to the attacks of insects, such as peas, beans, turnip, raddish, &c. ought to be frequently exposed to air and friction, by passing them through a sieve or winnowing machine, which clears them from dust and other filth likely to attract or harbor those destructive insects; but in general, seeds should be kept quite dry and excluded from the air as much as possible.

WASHINGTON CHESNUT.

The editor of the Washington Globe acknowledged the receipt of a beautiful young Chesnut tree, the offspring of a Chesnut planted by the *Father of his Country*, from Maj. John Adlum, who gives the following history of it, in a letter to the Editor:—

"I send you a *Washington Chesnut Tree*. The history of it is this: On the day that the late John Adams was inaugurated President of the United States, *General Washington* and *Col. T. Pickering* stood at his right hand; and when he finished delivering his inaugural speech, *Gen. Washington* and *Col. Pickering* (I was present at the time) went out, and I followed in their wake, as the crowd was very great. They walked down Chesnut-street, and I turned into 5th street, and at the corner of Market and 4th street, I met the above named gentlemen buying chesnuts of an uncommon size from a foreigner. The General then rode out to Belmont, the seat of the Hon. Richard Peters, and the *General himself* planted some of the nuts, one of which has become a large tree; and from the produce of that tree the Judge cultivated numbers, two of which he sent to me at this place. They were one year old then; and one of them is now a large tree, and has borne nuts for several years; the other perished. So that the nut which produced the grand parent tree (if I may so call it) was planted by the *Father of his Country;* and the nut which produced my tree, was planted by the *Father* of our Agricultural Societies; and the nut which produced the tree I send you was planted by myself. Yours, respectfully,

JOHN ADLUM.

P. S. My Chesnut Tree was planted early in the year 1817."

[*From the Daily National Republican.*]

PURE WATER.

MR. EDITOR:

Will you publish for the benefit of your readers and the public generally, the following receipt for the procuring of *pure* drinking water. Among the means of preserving health, at this fearful period, pure water may not be considered the least; and though it is generally known to the people of the west, that alum will clear muddy water, the fact, that the mixing about a *common sized table spoonful* of this salt *finely powdered*, with *a barrel of water*, will free it of *all impurities*, I apprehend, is either not known by them, or they have not convinced themselves of this important truth. I hazard this opinion, because I do not know any but my own family in this city, who enjoy the delightful beverage of river water, freed from *all* impurities, and transparent as crystal. Not being selfish, I have, therefore, taken the liberty of offering to the public, with your leave, the means of participating in this salutary beverage; merely adding, that it is the result of a series of experiments instituted at Paris a few years ago for the express purpose of ascertaining the best and most certain mode of procuring pure water.

"Into a wooden cask, set upright upon a stand, place two faucets, one near the bottom, the other about 6 inches above it. Fill the cask with water, and add powdered alum in the proportion of less than half a drachm to the gallon, which is to be stirred into the water, and allowed 24 hours to settle. Should any acidity be perceived, an equal quantity of subcarbonate of soda will neutralize it. For use, draw the water from the upper faucet; and always be careful to wash the barrel before refilling it."

If, as has been conjectured in Europe, the prevailing epidemic is "entirely telluric, and created by mephitic vapors, which are formed in the earth, and first communicated to the water," (and the conjecture is certainly favored by the deranged condition of the digestive functions, which most generally precedes the severe attack of cholera,) you will see in this, a strong argument for the immediate and general adoption of the means here recommended for freeing the water used for drink, at least, of the animal or vegetable poisons with which it may abound.

P.

[*From the Genesee Farmer.*]

WHEATLAND AGRICULTURAL SOCIETY.

ON THE CULTURE OF MANGOLD WURTZEL.

Gentlemen—Agreeable to your request, I give you my opinion on the Mangold Wurtzel, and its comparative value with other roots. I consider it to be the cheapest and most valuable succulent which we can raise for fall and winter use, being admirably adapted to feeding cattle, sheep, and swine, and for milch cows nothing can surpass them; they suit our climate, and will grow on any soil when well manured, but a rich clay loam is the most congenial to a great growth. The quantity they produce per acre, when well cultivated, is almost incredible; and the labor per ton is less than any other forage.

John McVean raised a fine crop this season, which, considering the dryness of the summer, (which was very unfavorable,) cannot be calculated much above an average crop. They were planted in drills, 3½ feet apart; one rod in each row, which was not more than an average, weighed with tops, - - 145 lbs.

Roots without tops, - -	116	
Weight of tops, - -	29	
Roots and tops per acre, -	54 tons	
Roots per acre, - - -	43	
Tops, - - - -	11	
Forty-three tons of roots, which, (to value at $5 per ton) will be		$215 00
Value tops at $2 per ton,		22 00
Value per acre,		$237 00

Compare the above amount with our best crops of potatoes, and it far exceeds them. (I would here remark that the wurtzel is preferable to potatoes for feeding, pound for pound.) Admit, for comparison, that potatoes should yield 300 bushels per acre, which is nearly double an average crop, (a bushel of potatoes from a bountiful yield will weigh 65 lbs.) which will be 9¾ tons, which is less than one fourth the weight of the beets without tops.

Value potatoes at 25 cts. per bushel, -		$75 00
Value beet roots at the same, -	$330 75	
" " tops at ¼, - -	21 25	
		$352 00

OAK LEAVES.

Now is the time for collecting leaves for manure, and we would earnestly recommend those who have heretofore neglected it to make a trial. Leaves may be converted into manure in various ways. They may be used as litter for horses, cattle and hogs, in stables and yards, for which purpose there is nothing better. They absorb

the urine of the animals, and this serves the double purpose of saving that valuable fertilizer and also of securing a degree of moisture necessary to the speedy fermentation of the leaves. Those who have never seen this would scarcely imagine the quantity of manure secured by it. The leaves also improve the quality of cow manure, by loosening its texture and inducing a more lively fermentation, and it is thus rendered fit for use sooner than without them. When used as litter in horse stables they save straw, and add as much to the bulk of manure as straw does. In hog pens they are very valuable, as they keep the hogs warm and clean, and are converted into manure in immense quantities.

Besides this mode of converting leaves into manure, another may be resorted to upon a much larger scale. They may be raked up in the woods, and thrown into convenient heaps, with a layer of earth three or four inches thick alternately with a layer of leaves a foot thick, the top layer being earth, and thus left to ferment, when they can be carted upon the land when wanted. This of course would be the work of infirm hands and boys and girls, and of able hands at idle times.

Many suppose that, by thus taking the leaves from the woods, they would impoverish the soil of their woodlands; but this is a mistake. The leaves rot on the surface and lose nearly all their fertilizing matter by evaporation, by the washing of rains, &c. hence the fertility of woodlands increases very slowly, if at all. Indeed it is very questionable if uncleared lands are more fertile now than they were a hundred years ago—those we mean which never have been cleared;—if not what has become of the vegetable matter deposited by the leaves during a hundred seasons? It has been washed away by rains and evaporated; we may, therefore, save it by gathering the leaves and converting them into manure as above, without fear of injuring our woodlands by the process.—[American Farmer.]

THE CYPRESS TREE—(Cupressus distichu.)

This curious tree is found common in the valley of the Mississippi. Under its shade rise many singularly shaped knobs, called cypress knees. The tree itself springs from one of these knobs, which frequently grow to the height of six or ten feet; from the apex of a knob, which, at the surface, is often thrice the circumference of the trunk, that rises 60 to 80 feet without diminution. The following is from Flint's Geography and History of the Western States:

Very near its top, it begins to throw out multitudes of horizontal branches, which interlace with those of the adjoining trees; and, when bare of leaves, have an air of desolation and death, more easily felt than described. In the season of vegetation, the leaves are short, fine, and of a verdure so deep as almost to seem brown; giving an indescribable air of funeral solemnity to this singular tree. A cypress forest, when viewed from the adjacent hills, with its numberless interlaced arms, covered with this dark brown foliage, has the aspect of a scaffolding of verdure in the air. It grows, too, in deep and sickly swamps, the haunts of fever, musquitos, moccasin, snakes, alligators, and all loathsome and ferocious animals, that congregate far from the abodes of man, and seem to make common cause with nature against him. The cypress love the deepest, most gloomy, inaccessible, and inundated swamps; and south of 33° is generally found covered with the same festoons of long moss, hanging, as it seems, a shroud of mourning wreaths almost to the ground. It seems to flourish best where water covers its roots for half the year. When the water rises from 8 to 10 feet from the overflow of rivers, the apex of the tree's buttock is just on a level with the surface of the water. It is then, in many places, that they cut it. The negroes surround the tree in *periogues*, and thus get at the trunk above the huge and hard buttock, and fell it with comparative ease. They cut off the straight shaft, as suits their purpose, and float it to a raft, or nearest high grounds. Unpromising as are the places and the circumstanees of its growth, no tree of the country where it is found is so extensively useful. It is free from knots, is easily wrought, and makes excellent planks, shingles, and timber of all sorts. It is very durable, and incomparably the most valuable tree in the southern country of this valley. It is a fortunate circumstance, that it habits the most gloomy and inaccessible regions, which will not come into cultivation for ages. It will, of course, have a better chance, not to share the fate of the most useful timber on the valuable uplands. The improvident axe soon renders timber difficult to be procured, in a country in the centre of forests. All the cypress forests, however, that are easily accessible, on the Lower Mississippi, and its tributaries, have been stripped of their timber by the Mississippi lumberers, who have floated to New-Orleans millions of feet of this timber, from the lands of the United States, and who have already created a scarcity of this species on the margin of the Mississippi. There are, however, in the vast swamps of the Mississippi, Arkansas, Red River, and Florida, inexhaustible supplies of cypress still remaining.

[*For the New-York Farmer.*]

A SCHOOL OF AGRICULTURE.—No. II.

I promised in my last to point out some of the branches of useful knowledge, that may be acquired in an agricultural school, which are not attainable, or but imperfectly so, either in our existing schools, or in the ordinary labors of a farm.

As I have already remarked, our schools afford no practical, and our farms but very little, if any, scientific instruction in the business of farming. To obtain a good proficiency in either, it is necessary that they be blended together. The mind and the body are then striving to reciprocate the benefits and pleasures which each receives from the other. Theory and practice are necessary in the learned professions, to attain to eminence; and they are not less beneficial when combined in the business of husbandry.

A school which shall combine with a literary and scientific education, practical instructions in farming and gardening, will afford to the student the following, among other advantages, highly conducive to his future usefulness and prosperity as a farmer.

He will acquire in *Botany* the names and relations of plants,—a knowledge of the forms and functions of their respective organs—their habits and economical properties, and their mode of nourishment and propagation.

Chemistry will enable him to ascertain the composition and elements of the materials and substances employed in his labors, of combining and separating them, and of graduating his practice by their known properties, with economy of expense and certainty of result.

Mechanical science will familiarize to his mind the principles upon which his machinery and implements are constructed, and upon which their relative value depends,—and will assist him to discover the cause of defects, and to supply suitable remedies.

The study of the *Animal Kingdom* will make him acquainted with the anatomy of domestic animals,—with their diseases and the modes of cure,—and with the

principles of improving and estimating the relative profits of different breeds.

He may learn the properties of *earths* and *soils*—their distinctive characters,—their uses in vegetation, and the means of improving their quality;—the theory of the operation of manures,—and the agency of heat, light, air, and water, in the process of vegetation.

He may be instructed theoretically and practically, in the very important business of keeping *farm accounts;* by which the profit and loss in any particular branch of husbandry, or of any particular crop, is readily ascertained, and by which we can alone make of capital and labor the most profitable and judicious expenditure.

A Garden, which should be attached to the institution, should contain specimens of all hardy plants, which are useful in commerce or the arts,—which administer to our domestic comforts, or which are merely ornamental. This will aid in the study of botany, and serve to illustrate the character and relative value of species and varieties; and afford instructions in the propagation and culture of fruits, flowers, and vegetables.

An *experimental department* will furnish important data for future guidance. The profit and loss on different crops, and the adaptation of different soils to their growth, the economy and application of manures, the culture and management of farm crops, the utility of alternate husbandry, and the usefulness of new plants, would naturally be among the subjects of experiment; and the result would not fail of being highly instructive. There is as much benefit in guarding against a bad practice, as in adopting a good one. The one prevents loss, the other increases the profit. Comparisons, which the proverb says are "odious," are in husbandry the best test of whatever is excellent; and they may be made in every product of the farm and garden, with manifest advantage.

This school will afford, moreover, the best practical instruction in the various departments of rural labors; and what is of incalculable importance, it will inculcate and tend to establish, in the student, habits of industry and frugality, (almost synonimous with virtue,) of system and of usefulness; and will tend to inculcate a taste for scientific and literary studies, in the hours of leisure which every employment gives, that never fails to promote the interests of humanity.

I have thus enumerated some of the advantages which the proposed school will afford to the young generation of farmers, who are to become the future guardians of our liberties, and who are to give the impress to our public character. The benefits which promise to result to the community at large from such a school, by increasing the products of the soil, by multiplying the resources, and augmenting the revenues of the state, by giving a new impetus to commerce, manufactures, and the mechanic arts, and by raising the standard of our moral and intellectual power, will form the subject of further remark.

B.

[*For the New-York Farmer.*]

FARRIERY.

Mr. Editor,—The nature and uses of the rowel seem to have been misunderstood by most of our farriers.—Messrs. Deane, Gibson, Clarke, and Bartlett, recommend them for draining away the humors which attend most swellings and glandular affections, but I think they should never be applied so long as any fever or inflammation exists. Like blisters in the human species, they tend to increase rather than to abate the fever and inflammation. When the fever is entirely gone, they may be of use in draining off the humors from the system, and in producing a general tonic effect, like blisters in typhus fever; but I think the volatile salts of ammonia, combined with the balls, is milder, safer, and more effectual in expelling those humors, by imperceptible perspiration through the skin, if the digestion is properly restored; the calomel and volatile salts will do the rest without the aid of rowels. Yours, &c. CARLO.

(*From the National Gazette.*)

PENNSYLVANIA HORTICULTURAL SOCIETY.

The committee charged with the arrangements of the fourth annual exhibition of the Pennsylvania Horticultural Society, cannot close their labors without making some record of the truly animating display on that occasion; and though from the profusion of interesting objects exhibited, and the numerous contributors, their report must necessarily be circumscribed, it is hoped that it may serve as some memento of those choice productions, and the patriotic zeal of the individuals to whose efforts the society is so much indebted. If, by inadvertence, the merits of any should be overlooked, it is hoped that the burden which devolved on the committee may be deemed a sufficient excuse.

The annual exhibitions of the society have heretofore been held in the vernal season, when the variety of flowers is great, when only many rare exotics are in bloom, and the earliest kinds of vegetables are in perfection.—Fruits, however, are less abundant at that time, than at a more advanced period. To create variety, and afford opportunity for the display of the many fine fruits our city and the surrounding country so prodigally yield throughout the autumn, the society decided on holding its exhibition for the present year in September; and although the season proved generally unfavorable, both for the quantity and quality of the fruit, the result was highly gratifying, and on no similar occasion has the same interest been excited.

The exhibition was held at the Masonic Hall, commencing on the 26th of September, and continuing throughout the 27th and 28th, and on the evenings of those days, when the rooms were brilliantly illuminated. The committee are happy in being able to state, that the amateurs who aided with the produce of their grounds, were much more numerous than heretofore; and that the number of visitors was far greater than on any previous occasion—a cheering evidence of the increasing pleasure our exhibitions afford.

The arrangement was at once chaste and novel, and the approving exclamations of the fair visitors evinced the good taste of Mr. J. B. Smith, to whose direction that portion of our duties was especially intrusted. To attempt a minute description were a task not easy of accomplishment; we must be content to speak in general terms.

Among the large number of foreign plants were many choice specimens of the rarest species now in this country. Indeed every portion of the globe seemed to have been rendered tributary to this fairy scene. It is related of a Hindoo who visited the botanic garden of Liverpool, when amidst the vast assemblage of exotic plants that ornament those grounds and add lustre to the British nation, his eye rested on the palm of his native land, under whose foliage the sportive hours of his childhood had been spent, he ran to clasp it, while tears flowed

down his cheeks—overcome by the associations of his earlier years. Had the native of the Isles, or the shores of the Pacific, the Brahmin of India, the negro of the wilds of Africa, in short an inhabitant of any portion of the globe, however remote, been present at our vegetable festival, he would have found something to remind him of his far distant home,—so numerous was the variety and the sources from which they had originated. Among the plants present, which from their uses are popularly known, we may enumerate the tea, the coffee, the sago, the Indian rubber, the mango, the olive, the banana, the rose apple, (Eugenia,) the indigo, the Japanese medlar, the fragrant olive, which scents the finer teas, the pine apple, the bread-fruit, the date, the sugar cane, the camphor tree, the black pepper, the cinnamon, the New-Zealand flax, the agave, the cochineal cactus, the plantain, the cream nut, the oil-bearing camellia of China, the cocoa-nut, the pomegranate, the Guava, the pistachia tree, the cajeput, the turmeric. Others of far greater variety were present, but we must forbear a recital here, referring the scientific and curious to the detailed specification hereunto annexed.

The collection of fruits was interesting both as regards variety and quality. Of peaches, several new seedlings of value were brought forward; of pears, many worthy of individual notice, but we can here only refer to the Doyenne gris, whose superior excellence especially demands to be recorded; of grapes, there was a fine display, both native and foreign. Also, apples, quinces, lemons, of unusual size, &c. In esculent vegetables, too, the exhibition was rich. The specimens of most varieties were truly worthy of distinction, and attracted much attention. Indeed, in every department there was much to merit the strongest approbation and special notice.

The daily increasing attention to the art of gardening, and to botanical science, evinced by the community since the formation of the Horticultural Society, is a pleasing augury of what combined and continued efforts may hereafter effect. Already a fondness for flowers and floral studies seems to be fast assuming the ground heretofore held by more volatile pursuits. It is gratifying to see the public taste concentrating on a subject not only so pleasing in every particular, but abounding in much to elevate the mind and induce the most happy reflections—for who, when dwelling on the minutest portion of nature's works, but insensibly and pleasingly reverts to the great author of its existence—who, when his attention is directed to the simplest petal in the great floral family, but feels his intellect elevated and enlarged, and withdrawn from the cold calculations of every day existence. Flowers are the emblems of innocence and peace—and it has been somewhere said, their presence in the garden, or the window, is indicative of a quiet home and happy family.

Although much has been done by our association, more remains to be accomplished. So far as the yearly and monthly exhibitions of the society could aid in giving an impetus to horticultural zeal, they have been highly successful—but much greater advantages may be anticipated if the original design of an experimental garden shall be carried into effect. There we could at all times resort, and have before us a living, imperishable witness of the advantages of the art. A practical and pleasing illustration of the benefits of our exertions would then be constantly in sight, a reward for past efforts and a stimulous to future exertions. And why, may it be asked, should Philadelphia lack such an institution? If taste, wealth, and professional zeal be requisite, where in the union shall more be looked for? Let us then hope for its accomplishment, and hoping, act with energy, and it may be speedily possessed.

In Europe, horticultural and botanical institutions abound. In Great Britain, even provincial towns are ornamented by them, often to a considerable extent, and rich in vegetable treasures called from every clime. And shall it longer be said that Philadelphia city, which claims to take the lead in all that is elegant and refined—the Athens of a vast empire—is destitute of an institution so eminently intellectual?

As a complete list of the plants is too extensive for insertion here, we shall specify only some of the more interesting either from the beauty of the specimens, or their rarity.

Ficus Bengalensis, populifolia, and religiosa; Mespilus Japonica; Dillenia speciosa; Laurus camphora; Plectranthus punctatus: Pterospermum acerifolium; Cookia punctata; and Plumeria alba—by A. D'Arras.

Piper nigrum; Cactus heptagonus; Casuarina torulosa; Cactus triangularis; Ficus costata; Cycas revoluta; Maranta zebrina; Ficus elastica; Cactus cochinnellifer—by J. M'Arann.

Baccharis augustifolia; Hedychium spicatum and coronarium; Plectranthus fruticosus; Maranta bicoler; Melaleuca pubescens; Ixora coccinea—by A. Parker.

Melastoma nervosa; Virgilia Capensis; Bletia tankervilliæ; Ficus australis; Latania Borbonica; Erythrina cristagalli; Euphobia heterophylla; Rhododendron arboreum; Mangifera indica; Musa paradisiaca; Dillenia speciosa; Ficus Bengalensis; Illicium floridanum; Pandanus odoratissimus; Laurus cinnamomum; Gloxinia arborea—by G. Pepper.

Carolinea princeps; Corypha sp.; Cupressus australis; Cookia punctata; Cactus melocactus; Camellia oleifera; Cocus nucifera; Cestrum nocturnum; *Ficus* vestita, nitida, and an undescribed species; Hedysarum pictum; Indigofera fragrans; Kæmpferia rotunda; Myrtus uniflorus; Artocarpus incisa; Phœnix dactylifera; Piper medium; Pandanus odoratissimus, and Zamia horrida—by J. B. Smith.

Musa coccinea; Zamia pungens; Serissa fœtida, the Japan box-thorn; Pandanus odoratissimus; Pistachia terebinthus; the yellow tea rose; Cycas revoluta; Astrapæa Wallichii; Maurandia Barclayana—by R. Carr.

Hakea suaveolens; Mangifera indica; Pinus longifolia; Cureuma longa; Olea fragrans; Ovieda verticillata; Chamærops hystrix, in fruit; sugar cane—by H. Pratt.

Acacia longifolia; Melastoma nepalensis; Cactus truncatus; Gloxinia speciosa and arborea; Musa paradisiaca—by Mr. Gutgsell.

Rhapis flabelliformis; Epacris grandiflora; Erica caffra; Empetrum truncatum; Banksia speciosa; Eugenia australis, in fruit; with a variety of fine roses and dahlias—by Hibbert & Buist.

Cactus arboreus, Acacia augustifolia, agapanthus umbellatus; Westringia rosmarinifolia—by Mr. Keyser.

Cacalia speciosa, and several remarkable species of aloe—by R. Pierpont.

Beautiful specimens of Citri, laden with fruit, and numerous rare exotics, of which no detailed list has been furnished—by D. & C. Landreth.

A fine display of dahlias, bouquets, and many other valuable contributions of plants—by D. Maupay, Dr. Gibson, John H. Cresson, P. K. Gorgas, Miss Rebecca Lawrence, Wm. Cushing, and J. Crumback.

FRUITS.

Pears.—Bello and bonne, a fine French variety, by Mrs. Parmentier of New-York. Gray doyenne, above alluded to; it is one of the beurre or butter pears, by D. Maupay.

Petre pear, by R. Carr; Fall christian, by J. J. Borie; Seckel pears, remarkably fine, by several contributors. Vertelongue panache, a singularly striped French pear, from the place of the late Stephen Girard, by Mr. Barney. Several other excellent varieties, by J. B. Smith, J. Copia, S. Gratz, and A. Parker.

Peaches.—Three new seedling free stones, by Mr. Bates, of Camden, N. J. Fox's and Eastburn's favorite, both seedlings, by John Evans. Lemon cling and Rodman cling, by John M. Kaign, of New-Jersey.—

Clings, remarkably fine, by Isaac Reeves, of Red Bank, N. J., and by G. Dixon. A beautiful vase of peaches and grapes were presented by Mrs. H. C. Carey.

Grapes.—Elsinborough, from the first offspring of the original vine at Elsinborough, New-Jersey; it was gratifying to observe the improvement which has taken place in this interesting variety from cultivation. Cultivated specimens from Burlington were presented by A. Quicksall, Walter Wilson, and S. R. Wetherill; those from the latter gentleman were from two vines, one bearing one hundred bunches, and the other two hundred. Red Catawba, our best native pulpy grape, and blue Isabella, both from a vineyard containing more than three thousand vines, the greater part then loaded with fruit, nearly ripe, by E. H. Bonsal, of Germantown. White sweetwater, from a vine bearing more than four hundred bunches, from the garden of J. Longstreth. Chasselas and Savignon, in great perfection, from the garden of J. Bonaparte, at Bordentown. Four bunches of the Hampton Court grape, one of which weighed eighteen ounces, by Hibbert & Buist. Lawton Isabella, by W. W. Fisher. Malaga and Black Hamburgh, very superior, by Mr. Vansickle. Chasselas, a bunch weighing 1 lb. 1½ oz., by Rowland Jones, of Burlington. Hansteretto and other Hungarian, by Mr. Laws. Numerous others, of superior excellence, were contributed by R. Carr, David Allen, of Burlington, Joseph Price, J. Evans, A. B. Engstrom, T. Stewardson, J. S. Waln, S. J. Robbins, and D. & C. Landreth.

Quinces.—A small and beautiful variety, by Wm. Raster. Large and fine, by H. Pratt; and also by A. D'Arras and J. B. Smith.

Apples.—Several varieties by A. Parker and John Evans.

Lemons.—Noticed above as very superior, by C. Chauncey and S. R. Wetherill.

Citrons.—St. Helena, remarkably large and fine, by H. Pratt.

Figs.—White and very superior, by J. Longstreth. Other varieties, by John Evans and A. Parker.

Melons.—Red Romana muskmelon, remarkable for the red color of the flesh, lately introduced by H. Pratt.

VEGETABLES.

Turnip-rooted cabbage and artichokes, by J. B. Smith.

Dutch turnips, possessing a very delicate skin, and mangel wurtzel, both fine, by Henry Chorley.

Summer blood beet; Malaga squash, a new article; prickly cucumber, for pickling, in fine order; early peas, the autumnal crop; a new variety of radish, shaped like the long red, but pure white, decidedly superior in quality, obtained in two years, by four times sowing—by R. Scott.

Royal cabbage lettuce; early peas, the autumnal crop; white solid celery; dark claret and Italian turnip beets; early horn, and long orange carrots; curled endive; all in fine condition—by J. Engelman.

Egg-plants, very large and fine; curled broccoli; orange carrots; parsnips—from the garden of S. Gratz.

Squashes; Giraumon d'Athene, fine for the table while quite young; and also for pies; giraumon turban, ornamental and edible; the seed of both imported from France—by E. Harris, of Moorestown, N. J.

Egg-plants, a new variety, singularly resembling the tomato in shape and appearance—by D. Maupay.

Drum-head cabbage; red Portugal beet; white Portugal beet; onions; salmon, brown turnip and black winter radishes—by Ashton Barton.

Indian corn, very tall and fine; ruta baga, sown on the 16th of August, and of fine size for its age; mangel wurtzel—by J. Kenworthy.

Cocoa-nut squash, an admirable vegetable, in perfection throughout the winter—by D. & C. Landreth.

Other valuable contributions of vegetables were received from D. Allen, of Burlington, Adam Price, of Burlington; John Evans, and from the Asylum for the Deaf and Dumb.

Leaves of the morus multicaulis, or Chinese many-stalked mulberry, the best sort for worms, with cocoons—by Mrs. Parmentier, of New York.

Leaves of the white Italian mulberry, esteemed next to the above for worms—by J. Evans, who cultivates it extensively.

Several bottles of superior Champagne cider were presented by Joseph Johns, and two bottles of elder wine by Mrs. Hoare.

For paintings of fruits and flowers, and for several other objects, not all embraced in the views of the society, but which contributed largely to ornament the room, the committee are indebted to A. B. Engstrom, J. M'Arran, John Robbins, A. Parker, H. M. Zollikoffer, Mrs. Parkinson, and Geo. Reynolds.

Published by order of the Society,

C. PICKERING, *Rec. Sec'y.*

MEDICAL GEOGRAPHY.

The following article, taken from the Journal of Health, concerns all classes of the community, especially those who till the soil. It is one of those subjects on which we should be pleased to receive communications.

We will venture to say that there is no country in the world, a knowledge of the medical geography of which is so important as that of the United States of America;—and yet of no one is there so much ignorance, in other countries, on the subject. To the European emigrant it is a question of momentous interest for him to ascertain with tolerable accuracy, in what quarter of the Union he can best locate himself, wtth a due regard to the preservation of the health of himself and family, and at the same time to the furthering of his views of money-making, by mechanical or commercial pursuits in the city, or a more frequent and probable supposition, by farming in the country. But not alone to foreigners is this inquiry one of interest. To the native citizen it is of equal importance. By inclination more than necessity, the inhabitants of these United States are roving, restless, and migrating. Ever intent on bettering their condition, they are constantly on the alert to move to a section of country reputed to have a more fertile and cheaper soil and a finer climate—though the latter is too often a mere secondary consideration.

In these migrations, however, change is not sought for as a means of evading labor and toil, in the hopes of enjoying an El Dorado without any personal risk or exercise of ingenuity. On the contrary, the rovers are often tempted by a mere love of adventure, a restless desire of change for the sake of variety alone. Hardly is a person who has left Virginia well settled in Kentucky, before he is seized with a longing to go to Missouri or Alabama, and if he feels himself tolerably comfortable in his second move, he will, not unwillingly, attempt a settlement still further west, and take a peep at the 'Aberagoins' as a member of the legislature (no matter of what State) once called the Aborigines; and perhaps join them in hunting and trapping one season, and fight them the next. There are sets, or currents we might call them, of emigration from different quarters along the sea board in a westerly direction. The New-Englander takes his course for Ohio and Illinois, or the Michigan Territory; the Virginian, who used to be content with moving to Kentucky, now makes it, half the time, a mere reconnoitering ground, from which he takes a fresh departure for Missouri, Alabama or Louisiana.

These are only some of the changes of place and climate sought after by our fellow citizens. Others more numerous, but temporary, are of nearly annual occurrence to a large number of all classes. An inhabitant of a district on one of the head waters of the Alleghany River in the state of New-York, will be seen in Louisville, or even New-Orleans, selling the timber which, as a raft, he had floated first into the Ohio and finally down

the Mississippi: he making his way home as best he may. In former times this was an affair of infinite toil —now, thanks to steamboating, he finds it an easy matter.

Merchants—store-keepers travel from all parts of the Union to the Atlantic cities, Philadelphia, New-York and Baltimore, to purchase goods—going through, in the ourney, as great a change of climate, as would the Italian travelling to Moscow, or the Spaniard to Denmark. We have seen one of these gentlemen from the Arkansas Territory making his investment of goods in Market-street, with as quiet, methodical, and unpretending a manner, as if he had just left his store, a few miles out of town. A person in London, whose home was upwards of 1200 or 1500 miles distant, would be one of the lions of the day—no matter what his pursuits or modicum of intelligence: but here we are used to such things.

The meeting of the National Legislature or Congress is another means by which persons, in leaving their homes, often undergo great changes in locality and climate. The representatives from Maine and New-Hampshire are in a southern climate at Washington. Those from Georgia and Louisiana may complain of the cutting easterly, and frozen air of the north in that city.

Conventions of a religious character in some one or other of the eastern cities, bring persons together from remote and opposite quarters of the Union, and are the means of subjecting them often to trying changes and vicissitudes of climate.

Nor ought we to omit a notice of another not less interesting and beneficial annual convention of persons, young indeed, but ardent in the pursuit of a knowledge, which, not solitary nor selfish in its application and enjoyment, is to be usefully applied to saving the lives and preserving the health of their fellow men. We of course allude to the medical students, who come on every winter to attend lectures and study anatomy, and practical surgery, and medicine. We see them to the amount of many hundreds every year in Philadelphia—from all parts, not only of the Union, but of North America. It has fallen to our lot in one season, to have under our immediate charge a young gentleman from Nova-Scotia and another from Trinidad de Cuba, while pursuing their medical studies in this city.

Another numerous class of rovers yet remain to be mentioned. They are travelling for health and pleasure; and in some respects they are entitled to a more conspicuous notice and friendly advice than the others whom we have enumerated. Many of them are females—wives, sisters, or daughters, who leave behind them the close and heated, and too often unhealthy atmosphere of the Carolinas, Louisiana, and Mississippi, to inhale a pure air and enjoy the scenery, and partake of the amusements of the North. Some hie them to the mountains and drink health from the famous springs of Virginia, and others hoping to make a league between fashion and health visit Saratoga and the Lakes—while a third set keep along the shore, inhaling the fresh breeze from the Ocean and bathing in its briny waters. Many of these travellers discover after a time, that the change of place and scenes, the long, long distance from home, does not realise all their fervid hopes; and some are not a little chagrined to find, that they may without due care contract, in Pennsylvania and in the fashionable tour through New-York, fevers so near akin to those of their own part of the country as not to be distinguishable from them. Fever and ague and remittent bilious fever, are not the products of the soil south of the Potomac alone. Wherever flows a broad river, with its wide meadows and low grounds, or wherever sluggishly steals along streams through marshes and loam and clay, there may these diseases be looked for in the autumnal months by those who heedlessly expose themselves to the night air, and infringe on the rules of temperate living. Yet another evil awaits the traveller from the south when he reaches our north-eastern coast—if his lungs be weak, he must dread the eastern blast which brings with it catarrh, hæmoptysis or spitting of blood, and, more than all, fell consumption in its train.

But what more of Medical Geography we have to lay before our readers, and much remains, must be postponed for future numbers of our Journal. We have only been able, in fact desired little more on this occasion, than to show how deep and wide the interest in the subject ought to be among the inhabitants of these United States.

[*For the New-York Farmer.*]

A SCHOOL OF AGRICULTURE.—No. III.

"We are republicans, when we endeavor to imbue the minds of our children with the love of science, and with such knowledge as may be likely, in maturer life, to make them useful in the stations they are called to occupy; and when we teach them to "love their neighbors as themselves."—[THE GOOD OBERLIN.*]

As indolence is the parent of vice, so is industry the incentive to virtue. And as knowledge is power, it is of the first importance that those who are the depositories of power, should possess this incentive to virtue. It follows as a corollary, that whatever tends to encourage industry, in the most numerous class of our population, by extending to it the efficient aids of science and literature, and thereby rendering its employment respectable and inviting, and its gains more certain, has an important influence in promoting the public welfare. Three-fourths of our productive labor is the contribution of agriculture. This is, as it were, the body, while the other avocations may be likened to the members; to which this gives health, strength, and character. If this flourishes, the state prospers; and the shock which withers its prospects, is simultaneously felt, with the force of the electric spark, to the remotest extremities of the body politic. Look to the old continent, and cast your eye over the new one. Where agriculture is in a high state of improvement, commerce and the arts flourish; and civil and religious freedom all seem to abound in proportion to the intelligence and industry which distinguish its agricultural population.

We must sow the seed before we can gather the harvest. We must plant the tree if we would enjoy the fruits. We must invest our capital ere we can receive the interest. And we must instruct our youth, if we would profit by the labors of their manhood. That the agriculture of our country, of one county, of one district, and of one farm, is rendered far more productive than that of another country, county, district, or farm, *by the superior intelligence, skill and industry of those who till its soil*, is a truth which needs no proof. The first impulse to improvement in the agriculture of Dutchess, was given by the example of a few men of science and enterprize; and the highly cultivated counties of Pennsylvania owe much of their improvement and prosperity to a naturalist and a civilian, whose great aim was to render science subservient to the comforts and profits of labor. Good example is always salutary, but especially in husbandry, where it exerts an extended influence, in consequence of its necessarily falling under the observation of many who are interested in adopting it. I do not flatter myself that the whole body of yeomanry could participate, directly, in the benefits of

an agricultural school. But a hundred pupils, with the mental and practical instructions which it would give, and animated with the laudable ambition which it would infuse, to excel in their business, and in usefulness to society—I say, a hundred such young men, sent annually into different sections of the state, would not fail to produce an effect highly salutary to all. Moreover, if, as I verily believe, such a school should become popular, and its benefits apparent, others would be established upon its models, to the extent of the public wants. Could the agriculture of the state be made to approximate, in its improvements, to that of our best cultivated county, the gain to its wealth and prosperity would be immense. And if an agricultural school should but partially effect this object, the outlay for its establishment would be more than repaid by the increased revenues of our canals alone.

But there is another advantage which this school promises to the state, which is worthy of serious consideration; I mean that resulting to our political institutions, from the diffusion of the higher branches of knowledge among that portion of our population who, from their numbers, are emphatically its guardians. Mr. Jefferson has said, and said truly, that great cities are great political *sores* upon the body politic. And history, as well as experience, admonish us, that the tendency of professional and commercial wealth is to generate that extravagance in the style of living, and those artificial distinctions in society, which, if not incompatible with, are often dangerous to civil liberty. We must rely upon the virtue of the country, and upon the steady habits and intelligence of its yeomanry, to counteract this influence. I would neither awaken jealousies, nor excite prejudices; yet I am persuaded that it would conduce to the public weal, if each class of our population was represented, in our councils, in proportion to their respective numbers. But this will not be the case while the present disparity in acquired knowledge exists in the professional and laboring classes. Awarding to the first the most honest and patriotic intentions, either their habits, their associations, or their interests, do not always qualify them, or leave them at liberty to consult the best interests of a community, of which they form but an inconsiderable portion. The majority can alone be fairly represented by its own members, whose feelings and interests are identified; and the more intelligence and virtue there is in this majority, the more wisdom and liberality there will be in the acts of our public councils. Not that I would make farmers all orators: but I would endue them with a talent no less useful—that of thinking and judging correctly. Our *talkers* too often compromit themselves upon *ex parte* facts, and become *advocates* to sustain their own errors; while it is the profound *thinkers*, who hear both sides of an argument before they publish their opinions, that we are to rely upon as impartial *umpires*.

It results from the consideration which I have given to this subject—

That an agricultural school will tend greatly to promote improvements in husbandry, and to augment its products;

That the laboring classes are entitled to an equivalent, from the bounty of the state, for the colleges and academies, it has endowed, for the benefit of the learned professions;

That the instruction which it will dispense, in chemistry, mechanics, and the natural sciences—in literature—in practical farming and gardening, and in rural economy generally,—will have a benign influence in enlarging the sphere of useful knowledge—in encouraging industry—in prospering all branches of business—and in augmenting the resources of the state;

That its moral and political influence will be salutary; and that the expense of its establishment will be amply remunerated by the increase of revenue, to say nothing of the enhanced value which it is calculated to confer on real estate.

The foregoing considerations are respectfully submitted, as the honest opinions of one who expects not the remotest benefit from their adoption but in common with his fellow-citizens. I will but add, in conclusion, my ardent hope, that some other pen may be employed more forcibly to illustrate the advantages of an institution, which I have but imperfectly sketched. B.

NOTE.

* *The Good Oberlin.*—There never was, perhaps, a more happy illustration of the advantages of education and science, in promoting agricultural and moral improvement, than was produced by the labors of this worthy philanthropist and christian. When he assumed the pastoral charge of a district in the mountains of Alsace, he found a people who could neither read nor write; who had no trade, no tools, no agriculture, few comforts, and no access by roads to more cultivated districts. By indefatigable industry and untiring patience, Oberlin surmounted all these difficulties, and rendered his district the wonder and admiration of all. He procured books and tools, taught his parishioners to read and to work, to improve their dwellings and their lands, to construct roads, and to plant trees, which latter he inculcated as a religious duty. He established probably the first infant schools, in about 1790. "Education," says his biographer, "was never in any other place made so general, nor, in many useful respects, carried so far, as by this extraordinary and most exemplary pastor." Oberlin's useful labors excited the notice and the admiration of the capital. Louis XVIII. sent him the ribbon of the Legion of Honor, and the Royal Agricultural Society voted him a gold medal. The quotation at the head of this article exhibits the ground work of his wonderful improvements. He died in 1826.

Domestic Yeast.—Ladies who are in the habit (and a most laudable and commendable habit it is) of making domestic bread, cake, &c. are informed, that they can easily manufacture their own yeast, by attending to the following directions: Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, with two gallons of water, for one hour. When milk-warm, bottle it and cork it close. It will be fit for use in 24 hours. One pint of this yeast will make eighteen pounds of bread.

Cranberry Fair.—The common lands on Sandy Neck, in Barnstable, were lately opened to the inhabitants of the town for gathering cranberries. It is estimated by the Journal that as many as two hundred men, women and children, were assembled in the bogs, and that on Monday and Tuesday not less than 250 bushels of this agreeable fruit were gathered. By a judicious regulation the picking of the berries is prohibited until they are ripe, and until a day is appointed for the purpose by the selectmen.—[Aug. Age.]

THE NEW-YORK FARMER.

DECEMBER 15, 1832.

POLITICS FOR FARMERS.—One of the most able agricultural writers in our country has informed us, in a private note, that he intends to furnish the public with a few articles relative to the politics of farmers. On no subject would we be more pleased to see well tempered and well digested essays, to be circulated among the yeomanry of our country. The agricultural community are, in most districts of our country, in the possession of general information, they are, compared with those of other countries, enlightened: in fact, they constitute the main pillars of our government. It is to them we look for the stability of our institutions. But it is in vain that our farmers are respected for their general information, and on governmental matters take a special interest, if they suffer themselves to be swayed by designing politicians. It is in vain that they take a special interest in the affairs of the nation, if they do not place themselves in the attitude of independent reasoners—if they do not study our laws and institutions, so well as to discriminate between true and pretended patriotism. The agricultural population of this country will never, while they act deliberately and reason with calmness, act contrary to the spirit of those who framed and adopted our free institutions. It is their undue devotion to their leaders, that will lead them to act beneath their character and inimical to the laws of the land. Who would have thought in these days, when the nature of liberty is well understood, the means of securing it, and the steps to obtain redress, we should see the majority of the population of an agricultural State under the deepest excitement and in open rebellion against the Union. Had such a state of things taken place in the other continent, where liberty has been enjoyed only in anticipation, it would have been a matter of no surprize; but that any portion of the agricultural population of this country, of an old long-settled member of our Union too, should have their feelings so much excited as to support their leaders in acts that are calculated to disgrace the country, and arrest for centuries the progress of freedom, is an evidence that the dear-bought privileges of our fathers are held by the most insecure tenure. The nature of our institutions must be so well understood by the agricultural community, that political excitement will no more endanger the purity and stability of our government, than the excited billows of the ocean will pass their bounds and carry havoc and ruin over the face of the earth. Our youth must be educated in the *spirit* as well as in the letter of our constitution. They must be taught to imbibe from their very infancy the sentiment, that our government must be sustained by the freedom of thought rather than by the strength of brother against brother.

While on this subject, we cannot too strongly recommend the attentive consideration of the recent proclamation of the President of the United States.

INTERNAL IMPROVEMENT.

The following article, which we take from one of the city papers, gives us some idea of the grandeur of the scale of internal navigation, conceived and executed by the ever memorable Clinton and his associates. How great will be the travelling on this route, and how immense the quantity of produce that will be brought to this city, we can, at present, form but a very faint estimate.

The length of the Ohio Canal, recently completed, connecting Lake Erie with the Ohio river, is 310 miles. Of the New-York Canal, connecting Lake Erie with the Hudson, 363 miles. There is now an uninterrupted water communication for the conveyance of goods, from New-York to almost every prominent town in the Western States. It is perfectly practicable to go from this city to New-Orleans, via Lake Erie, without touching the shore; and not only so, but it is a much nearer route, we do not say a better one, than that by the way of the Atlantic and the Gulf of Mexico. The whole distance is about 2500 miles.

PRESERVING YOUNG TREES FROM RABBITS AND MICE.

One of the losses and perplexities attending the culture of trees is the injury they receive from mice. It is not uncommon to have live fences entirely destroyed by these destructive animals. We last winter saw at Albany every plant of a young hawthorn fence completely girdled in one or two nights. The following, from the Transactions of the Society for the Encouragement of Arts, contains one among the many methods recommended.

Hares, rabbits, and rats, have a natural antipathy to tar; but tar, though fluid, contracts (when exposed to the sun and air for some time) a great dryness, and a very binding quality; and if applied to trees in its natural state, will occasion them to be bound. To remove this difficulty, tar is of so strong a savor that a small quantity mixed with other things, in their nature loose and open, will give the whole mixture such a degree of its own taste and smell as will prevent hares, rabbits, &c. from touching what it is applied to.

Take any quantity of tar, and six or seven times as much grease, stirring and mixing them well together; with this composition brush the stems of young trees as high as hares, &c. reach, and it will effectually prevent their being barked. I believe. if a plantation of ash (of which they are very fond) were made in a rabbit warren, this mixture would certainly preserve it. These animals do great mischief amongst flowering shrubs, and are particularly fond of Spanish broom, scorpion senna, and evergreen cytisus. I have had those shrubs eaten down to a stump; but as the mixture cannot be so well applied to them, I have enclosed their branches with new tarred twine, putting it several times round the shrub, which has had the desired effect. The twine by being exposed to the air and rain will lose the smell, consequently must be removed as occasion requires; but the mixture is always to be preferred where it can be used.

SCALDING HOGS.

The following article, from the Wyoming Herald, strikes us as being of service to farmers, particularly at this season of the year. We should be pleased to hear some of our correspondents' opinions on the scientific principles involved in the method of scalding hogs.

A gentleman of experience and observation desires us to make known, for the benefit of Farmers, a mode practiced by him of scalding hogs. Instead of putting *cold water* or *ashes* into the hot water, as is the general practice, he washes the hog in cold water previous to scalding it. It matters not how hot the water may be with which the

hog is scalded; if cold water is used in the way prescribed, the hair can be taken off with ease and neatness. No danger need be apprehended of the hair becoming *set*, as is often the case when this mode is not resorted to, owing to a particular temperature of the water.

The gentleman who communicated to us this mode, says he has practised it for more than twenty years, and has not during that time experienced any difficulty in scalding hogs.

In dressing a young pig for roasting, he first dips it in cold water, and then in hot, by which process he is enabled to remove the hair with the least possible trouble.

VEGETABLE MARKET, Dec. 15.

While farmers have continued for months past to realize good remunerating prices for their larger grains, the gardeners still labor under the depression of dull sales for most of their raisings.

Kidney potatoes retail in market at 44 cents per bushel, and the common kind, at 25 to 30 cents. Turnips are of dull sale. Apples, Newtown, bring from $2.25 to $4, russet $1.75, greenings $3. Cranberries are brought from Boston, and bring from 6 to 9 dollars per barrel. In ordinary seasons they can be bought for $2.50 to $3.50. The season has been unfavorable for this berry.

Owing to the warm weather, poultry has been exceeding dull.

DOMESTIC ECONOMY.

Domestic economy, which consists in a due regulation and government of all one's household affairs, implies also an economy, that is a frugal and judicious use of one's health, time and money; and a guidance of those under our charge agreeably to the rules of good morals and worldly prudence. It would be fortunate were domestic more frequently to divide attention with political economy, of which it is the first support, and to which it furnishes the necessary elements for both home and international legislation. Whatever credit the people may give to philanthropists for purity of intention, who allow their domestic concerns to fall into irretrievable confusion, whilst attending to public affairs, they ought not to grant them their full confidence. We have no example of successful and judicious legislation and reform by princes or leaders, whose domestic economy was not of the most methodical kind. Not to multiply examples, it will be sufficient for our present purpose, to cite the names of Peter the Great and Napoleon, among republican ones.

Carrying out this idea a little further, we would say, that one great cause of the failure to establish free institutions on the continent of Europe, is the want of a knowledge and practice of domestic economy by most of those who have felt themselves impelled to take the lead. Many of those persons are well read; many are sincere; but they are speculative reformers, they legislate from the ideas derived from reading, or from the practice of other people differently circumstanced, and not from the real wants and desired improvements in domestic economy of their own countrymen.

Without good domestic economy there is very little personal comfort, and not much prospect of happiness either in one's self or the relations, respectively, of husband and wife, parents and children. Even Mammon, the god of the world's idolatry, requires of his worshippers order, method, and continued attention to objects and ends: in fine, well regulated domestic economy.

A French Farmer's Wife.—The farmer's wife, says M. de Cubieres, bestows her attention and her daily cares on whatever is connected with the administration of the farm. She inspects the dovecote, the farm-yard, the stables, the dairy, the orchard, &c. She sells the vegetables, the fruit, the produce of the dairy, the ewes and their fleeces; to her is entrusted the gathering of hemp and flax, with the first operations these plants undergo. In the southern departments she has also under her management the important business of rearing silk worms, and the sale of their produce.

She knows how to excite workmen to their labor: to the lazy she gives a new life, by friendly remonstrances; and at the same time, she supports by her praises the zeal of the most laborious.

She knows how to inspire awe by a studied silence, and to insure obedience by the mildness of command; she renders all her laborers faithful, by bestowing on them a due share of her confidence.

It is she who presides daily at the preparation of their food; in their sickness she attends them with maternal care; on the days of rest she excites them to rural sports.

In short, surrounded by her laborers, her husband, her children who form her principal riches, she enjoys that felicity which springs from benevolence; she is happy, in the happiness she confers on others; and that large family free from fear, cupidity, and ambition, leads a happy and peaceful life.

Negligence.—Inattention to small matters brings with it often a succession of losses. The following narrative by the celebrated Say, in his "Essay on Political Economy," illustrates this truth in a very satisfactory manner. "I remember," says this writer, "when I was in the country, witnessing an instance of the losses to which a household is exposed by negligence. For want of a latch of trifling value, the gate of the farm-yard which opened into the fields was often opened. Whoever went out pulled the gate after him; but as there was no means of shutting it, this gate was always a-jar. Many of the farm-yard animals had been on this account lost.

One day, a fine young pig got out and reached the neighboring wood. All were immediately in chase of the animal. The gardener was the first who got sight of it; and he, in jumping over a ditch to stop its further passage, received a dangerous wound, which confined him to his bed for a fortnight. The cook found on her return from the pursuit, that the linen which she had left at the fire to dry, was burnt; and the dairy maid having left in a hurry the cow-stable without fastening the animals in it, a cow in her absence broke the leg of a colt which they were raising in the place. The days lost by the gardener were worth twenty crowns; the linen and colt were as valuable. Here then in a few minutes, for want of a fastening which would have cost a few cents, a loss of 40 crowns was encountered by persons whose duty it was to exercise the most rigid economy, without our taking into account the sufferings caused by the disease or the uneasiness and other inconveniences in addition to the expense.

LIFE IN RUSSIA.

We have culled from an interesting work, descriptive of the manners and customs of the Russians, the following articles, which will, as now arranged, possess interest that the reader will not be sensible of in perusing the book itself.

A Peasant's House.—The whole premises consist, generally, of a court-yard with a covered roof, of an enclosure for the cattle, another for the hay, an ice cellar for the milk and meat in summer, a store-house for oats, rye and buckwheat, and a covered porch with a door, to intercept the exit of heat from the eezba in winter; lastly, the eezba, that part of the house inhabited by the peasant and his family, and heated with a large brick oven-stove. In Byalo-Russia, stoves are not so much used as raised hearths, on which fires are kindled.

Landlord and Tenant.—The peasants in Russia were

formerly, it is known to our readers, slaves of the soil, as perhaps the greater number of them are at this day. The lower order of tenants are often in nearly as debased a condition. According to the written law of Russia, the peasantry can only be obliged by their masters to work for them three days in each week; but in practice this regulation is null and void. The peasants are *actually* obliged to do all their master's field work before they can touch their own. In case of refusal, their masters can find means to punish them as they think proper.

An Execution.—What is called an *execuzion* in the Polish governments is a quartering upon a peasant some of the household vassals, usually the greatest blackguards, who riot, eat and drink in the house, till the peasant pays his dues, or complies with his landlord's demands, as of fowls, eggs, and butter, if he wants to give a feast. Sometimes these executions are inflicted for not working well, for rudeness to the Jew-farmers, and for various other causes. The preparations for a ball, for example, make the villages around the Ghospodeen or country gentleman, who is owner of the district, scenes of rapine and misery. The hungry vassals of the household act like real marauders. They search for fowls in the chests, butter amongst the linen, and eggs in the bosoms of the peasants, poking in every hole and corner, and insulting in every possible way the poor villagers, both males and females.

Drinks.—*Quass* is a sour, fermented liquor, made from rye-malt, and is the usual drink of the common people in Russia. It is represented as a very refreshing drink in the heats of summer.

A much more pernicious, and a too common drink, is *vodky*, a sort of whiskey, made from malt and rye flour.

No one has lived in Russia without appreciating the benefits of the Russian tea-urn, or *samovar*, which is not unlike the old English tea-urns in shape, but is heated with charcoal. When the teapot is placed on the top of the samovar, the strength of the tea is drawn off sooner and better than by any similar process with which we are familiar. Brick-tea, the commonest and cheapest sort of tea, used mostly in Siberia, is sold in pieces of a form similar to bricks. It is sometimes made a substitute for money; goods being valued by the number of these pieces of tea.

Accommodations on the Road.—There are no bed rooms in the houses upon the road, but if the traveller should have a bed or pillow with him, he gets it spread out at night on the floor of the sitting room; if he have no bed, he can generally find cushions, or sofa, or pieces of felt, to stretch himself out upon for the night, at least in the post houses.

[*From the Troy Budget.*]

FROSTED CORN.

Mr. Kemble: Sir—I have known much distress averted by stripping the husks from the ear, when the crop of corn had been touched with frost, so that the mould consequent upon frost was thereby prevented, and a tolerable crop secured by the ear becoming hard in that situation. I have thought this hint to farmers might be useful, particularly as the backward state of the crops of corn this year exposes it to early frosts of autumn.

PHILANTHROPIST.

[*From the Southern Planter and Family Lyceum.*]

TOMATOES PRESERVE.

Mr. Editor—The tomato is favorably mentioned in your last number: it is a valuable vegetable. But I do not recollect that, in the variety of uses in which it has been applied, your paper assigns it any place among the different species of preserves. As we are deprived this season of that pride of the fruit of Georgia, *the peach*, it may be of service to house-keepers to know that the tomato forms a most admirable substitute for the peach as a preserve. The flavor is almost precisely the same—it looks as well, and is altogether an excellent article for the tea-table.

Directions.—Take good ripe tomatoes—peel them and preserve them with good brown or loaf sugar. If not peeled they burst, and do not retain the consistency so much desired by housekeepers, though they are very good without peeling. I give you this, at this time, that the industry of the fair hands about your flourishing town may profit by it, before *Jack Frost* shall cut off their hopes from this new source of table ornament and luxury.

Your's, &c. SWEET TOOTH.

P. S.—Those who live in towns will at all times find this a cheap substitute for peaches, as the latter costs something. Remember "a penny saved is a penny gained."

PLANTING CHESNUTS.—After the ground has been carefully loosened with the plough and harrow, lines are drawn six feet apart, in which holes about a foot in depth and in diameter are formed at the distance of four feet. A chesnut is placed in each corner of the holes, and covered with three inches of earth. As the soil has been thoroughly subdued, the nuts will spring and strike root with facility. Early in the second year, three of the young plants are removed from each hole, and only the most thriving are left. The third or fourth year, when the branches begin to interfere with each other, every second tree is suppressed. To insure its success, the plantation should be begun in March or April, *with nuts that have been kept in the cellar during the winter, in sand or vegetable mold, and that have already begun to vegetate.*—[Michaux.]

SUBSTITUTE FOR COFFEE.—The seeds of grapes have been discovered to be an excellent substitute for coffee. When pressed they first produce a quantity of oil, and afterwards, when boiled, furnish a liquid similar to that produced from coffee. The practice has become very general throughout Germany.

The following, among other commendatory letters, has just been received from a distinguished Member of Congress. We look for much encouragement from the influential and patriotic of our General Government, as well as of the State Legislatures.

House of Representatives, Dec. 14, 1832.

SAML. FLEET, Esq.

Sir,—I thank you for the number of the "New-York Farmer," with which you have favored me. I am much pleased with this specimen of the work, and especially with the plan of *uniting Agriculture with Internal Improvements.* These two great interests are so intimately connected and blended together, that they cannot and ought not to be separated. No friend of the one can be an enemy to the other. The greatest improvement to the agriculture of this country, and especially in its interior and western portions, will be derived from the facilities afforded to it by internal improvements. Whatever is saved in the cost of transportation is so much added to the profits of the farmer; or, it will be divided between him and the consumers of his produce.

Please place my name on the list of your subscribers, and give me credit for the enclosed five dollars. Send the work to me here during the session of Congress, and to "————, Penn." after the adjournment.

Your's, respectfully, ****** *******,

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